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Oceans and the law of the sea

Oceans and the law of the sea

Report of the Secretary-General**

Addendum

Summary

The present report has been prepared pursuant to the request, made by the General Assembly in paragraph 240 of its resolution 65/37 A, that the Secretary-General prepare a comprehensive report for consideration by the General Assembly at its sixty-sixth session, on developments and issues relating to ocean affairs and the law of the sea, including the implementation of the resolution. It is also being submitted to States parties to the United Nations Convention on the Law of the Sea, pursuant to article 319 of the Convention.

* A/66/150.

** Owing to the page limit, the present report contains a mere summary of the most important recent developments and selected parts of contributions by relevant agencies, programmes and bodies.

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I. Introduction

1. The present report provides an overview of developments in ocean affairs and the law of the sea. Its purpose is to assist the General Assembly in its annual review of the implementation of the United Nations Convention on the Law of the Sea and other developments related to ocean affairs and the law of the sea. It should be read in conjunction with: (a) the first part of the report of the Secretary-General related to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (A/66/70); (b) the addendum to the report (A/66/70/Add.1), which addressed the topic of focus at the twelfth meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea; (c) the two reports on the work of the Ad Hoc Working Group of the Whole to recommend a course of action on the regular process for global reporting and assessment of the state of the marine environment, including socio-economic aspects (A/65/759 and A/66/189); (d) the report on the work of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea at its twelfth meeting (A/66/186); (e) the letter dated 30 June 2011 from the Co-Chairs of the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction addressed to the President of the General Assembly (A/66/119); and (f) the report of the twenty-first Meeting of States Parties to the Convention (SPLOS/231).

II. The United Nations Convention on the Law of the Sea and its implementing agreements

A. Status of the Convention and its implementing agreements

2. As at 31 August 2011, there were 162 parties to the Convention, including the European Union, as a result of its ratification by Malawi on 28 September 2010 and Thailand on 15 May 2011. On those dates, both States also expressed their consent to be bound by the Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982. This action, together with the accession to the Convention by Angola on 7 September 2010, brought the number of parties to that Agreement to 141. The number of parties to the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (United Nations Fish Stocks Agreement) rose to 78 as a result of accession by Saint Vincent and the Grenadines on 29 October 2010. Upon ratification of the Convention, Thailand made declarations under articles 310 and 298 of the Convention.

B. Meeting of States Parties

3. The twenty-first Meeting of States Parties was held from 13 to 17 June 2011.[1] At the Meeting, States parties took note of a number of reports relating to the International Tribunal for the Law of the Sea and of the information reported on the International Seabed Authority and on the Commission on the Limits of the

[1] See report of the twenty-first Meeting of States Parties (SPLOS/231).

Continental Shelf. States parties also elected seven judges to the Tribunal and adopted a decision on the workload of the Commission.[2]

III. Maritime space

A. Overview of recent developments regarding State practice, maritime claims and the delimitation of maritime zones

4. During the reporting period, the Secretariat received from Member States the following national legislation acts: (a) the Decree of 10 June 2010 determining the outer limit of the exclusive economic zone of the part of the Kingdom of the Netherlands situated in the Caribbean; (b) Resolution 478-08 of the National Congress of the Dominican Republic adopting the Convention, and the interpretative declarations authorized by article 310 of the Convention; (c) Maritime Zones Act 18 of 2010 of Guyana; (d) Decree No. 78-147 of the Prime Minister of France dated 3 February 1978, establishing, pursuant to the Law of 16 July 1976, an economic zone off the coast of Île Clipperton; (e) Presidential Decree No. 450 of Ecuador concerning the publication of ministerial agreement 0081 of 12 July 2010 and Nautical Chart IOA 42, annexed thereto, which plots the maritime boundary between Ecuador and Peru and the outer maritime boundary — southern segment — of Ecuador; (f) the list of geographical coordinates for the delimitation of the northern limit of the territorial sea and exclusive economic zone of the State of Israel, July 2011; and (g) geographical coordinates of the 6 nautical mile, 12 nautical mile, 24 nautical mile and 200 nautical mile limits defining the maritime zones of Liberia.

5. During the same period, the Secretariat registered the following maritime boundary delimitation agreements pursuant to Article 102 of the Charter of the United Nations: (a) the Treaty between the Republic of Trinidad and Tobago and Grenada on the Delimitation of Marine and Submarine Areas, 21 April 2010; (b) the Agreement on the delimitation of the maritime boundaries in the Gulf of Aqaba between the Kingdom of Saudi Arabia and the Hashemite Kingdom of Jordan, 16 December 2007; (c) the Treaty between the Republic of Singapore and the Republic of Indonesia relating to the Delimitation of the Territorial Seas of the Two Countries in the Western Part of the Strait of Singapore, 10 March 2009; (d) the Agreement between the Government of the State of Israel and the Government of the Republic of Cyprus on the Delimitation of the Exclusive Economic Zone, 17 December 2010; and (e) the Agreement by exchange of notes of identical content between the Republic of Peru and the Republic of Ecuador, 2 May 2011.

6. The Secretariat also received a number of communications from States, namely a communication dated 25 January 2011 from Saudi Arabia and Kuwait concerning exploration and exploitation work by the Islamic Republic of Iran of petroleum and gas in a maritime area that stretches to the submerged area adjacent to the zone divided between Saudi Arabia and Kuwait; and a communication from Lebanon dated 20 June 2011 concerning the exclusive economic zone of Lebanon and the Agreement between Israel and Cyprus on the delimitation of their respective exclusive economic zones.

[2] SPLOS 229, para. 1.

7. Information on these and other developments, as well as the texts of national legislation acts, maritime boundary delimitation treaties and relevant communications received by the Secretariat, have been published in the *Law of the Sea Bulletin*, Nos. 74 to 76. The information is also available on the website of the Division for Ocean Affairs and the Law of the Sea of the Office of Legal Affairs.

B. Deposit and due publicity

8. On 7 September 2010, the Comoros deposited with the Secretary-General, pursuant to article 47 (9) of the Convention, a list of geographical coordinates of points defining the archipelagic baselines of the Comoros.

9. On 20 October 2010, Lebanon deposited, pursuant to article 75 (2) of the Convention, charts and a list of geographical coordinates of points defining the Southern part of the Western maritime limit of Lebanon's exclusive economic zone.

10. On 30 November 2010, France deposited, pursuant to article 75 (2) of the Convention, lists of geographical coordinates of points defining the outer limits of the exclusive economic zone of Clipperton Island. On 28 January 2011, France also deposited, pursuant to articles 16 (2) and 75 (2) of the Convention, three charts showing the baselines, the outer limits of the territorial sea and the outer limits of the exclusive economic zone of New Caledonia.

11. On 15 April 2011, Iraq deposited, pursuant to article 16 (2) of the Convention, a list of geographical coordinates of points defining the baseline of the territorial sea of the Republic of Iraq.

12. On 30 June 2011, Latvia deposited charts showing the baselines and the outer limits of the territorial sea of Latvia, including the lines of delimitation, as well as a list of geographical coordinates of points defining the baselines of Latvia.

13. The Secretariat also received a number of communications relating to the above-referenced deposits, namely, a communication from Egypt dated 15 September 2010 concerning the deposit by Saudi Arabia;[3] a communication from France dated 6 December 2010 concerning the deposit by Vanuatu;[4] a communication from the Islamic Republic of Iran dated 22 December 2010 concerning the deposit by Saudi Arabia of a list of geographical coordinates of points;[3] two communications from Mauritius dated 17 May 2011 concerning both the deposits by France of a list of geographical coordinates of points[5] and a communication from France dated 30 July 2009 in relation to the deposit by Mauritius of charts and lists of geographical coordinates of points;[6] and a communication from Saudi Arabia dated 15 June 2011 in relation to the communication from the United Arab Emirates dated 5 May 2010.[3]

[3] A/65/69/Add.2, para. 26.
[4] Ibid., para. 27.
[5] A/64/66/Add.1, para. 34.
[6] A/63/63/Add.1, para. 21.

C. Commission on the Limits of the Continental Shelf

14. *Submissions and the work of the Commission.* During the reporting period, the Commission[7] received three new submissions: one from Denmark in respect of the Faroe-Rockall Plateau Region, one from Bangladesh and one from Madagascar, bringing the total number of submissions received to date to 56. It also received a revised submission from Barbados.[8]

15. The Commission held its resumed twenty-sixth session from 15 November to 10 December 2010, its twenty-seventh session from 7 March to 21 April 2011 and its resumed twenty-seventh session from 6 to 17 June 2011.[9] At the time of the preparation of the present report, the twenty-eighth session (1 August-9 September 2011) was still under way.

16. During the plenary part of the twenty-seventh session, the Commission received formal presentations of submissions by Mozambique, Maldives and Denmark in respect of the Faroe-Rockall Plateau Region. The Commission considered and adopted recommendations in respect of the submission made by Indonesia in respect of North-West of Sumatra Island; the joint submission made by Mauritius and Seychelles in respect of the Mascarene Plateau; and the submission made by Suriname.

17. The Commission continued the examination, by way of subcommissions, of the submission made by Japan and of the submission made by France in respect of the French Antilles and the Kerguelen Islands. It also established new subcommissions to consider the submissions made by Uruguay and the Philippines in respect of the Benham Rise region.

18. *Workload of the Commission.* During its twenty-seventh session, the Commission met with the informal working group of the Meeting of States Parties on the workload of the Commission in response to a letter from its Coordinator, Mr. Eden Charles (Trinidad and Tobago). The Commission presented its views on a number of possible measures, described in the letter of the Coordinator, to address the workload of the Commission.[10] These measures included working at United Nations Headquarters on a full-time basis or working for six months per year, organized in the manner that, in the view of the Commission, would be most effective. The Commission also presented its views on the impact of measures listed in paragraphs 1 (a) to (f) of the decision contained in document SPLOS/216.

19. *By-elections.* On 11 August 2011, at a special meeting of the States parties to the Convention, Mr. Tetsuro Urabe (Japan) was elected to fill the vacancy that had

[7] More information on the Commission on the Limits of the Continental Shelf, including its documents, the submissions received and the recommendations issued, are available from www.un.org/Depts/los/clcs_new/clcs_home.htm.

[8] Details on all submissions received by the Commission and on preliminary information are available from www.un.org/depts/los/clcs_new/commission_submissions.htm and www.un.org/Depts/los/clcs_new/commission_preliminary.htm, respectively.

[9] More details on the sessions of the Commission are contained in document CLCS/70.

[10] The presentation, made on 5 April 2011 is available from www.un.org/Depts/los/clcs_new/clcs_workload.htm.

occurred owing to the death of Mr. Kensaku Tamaki (Japan). Mr. Urabe was elected for the remainder of Mr. Tamaki's term, which will end on 15 June 2012.[11]

D. Geographic Information System facilities

20. The Division continued its efforts to maintain and improve its Geographic Information System services in the context of its support for the Commission as well as in the performance of the depositary functions of the Secretary-General under the Convention in relation to charts and lists of geographical coordinates of points. In particular, it continued to upgrade its internal Geographic Information System catalogue to permit the eventual dissemination of deposited information and improve its accuracy, including by ascertaining the datum used in certain deposits.[12]

IV. Bodies established by the United Nations Convention on the Law of the Sea

A. International Seabed Authority

21. The Assembly of the International Seabed Authority held its seventeenth session in Kingston in July 2011. The members of the Authority examined the report of its Secretary-General (ISBA/17/A/2).

22. At the session, it was decided that preparations should begin with regard to the formulation of a mining code for exploitation of deep-sea minerals in the international seabed Area.[13] The Assembly decided to convene a special meeting during its eighteenth session to commemorate the thirtieth anniversary of the opening for signature of the Convention.[14]

23. The Assembly endorsed the election by the Council of the Authority of 25 members to serve on the Legal and Technical Commission.[15] It also elected 15 members to the Finance Committee;[16] Malawi and Thailand were welcomed as the Authority's newest members.

24. The Assembly adopted a decision relating to financial and budgetary matters[17] by which members of the Authority were urged to pay their assessed contributions to the budget on time and in full and to pay arrears from previous periods (1998-2010) as soon as possible. By the same decision, PricewaterhouseCoopers was appointed as independent auditor for another two years, 2011 and 2012. The auditors were requested to express, in future reports, an opinion on the effectiveness of the internal controls of the Authority.

[11] See report of the Meeting of States Parties to elect one member of the Commission on the Limits of the Continental Shelf (SPLOS/237).

[12] On a number of occasions, it has been brought to the attention of States parties that the preferred reference system for the deposit the list of geographical points is WGS 84.

[13] See ISBA/17/C/21 and 22.

[14] See ISBA/17/A/L.3.

[15] See ISBA/17/C/2 and ISBA/17/C/4 and Add.1.

[16] See ISBA/17/A/3-ISBA/17/C/3, ISBA/17/A/4 and Add.1.

[17] See ISBA/17/C/18 and ISBA/17/A/3-ISBA/17/C/3.

25. The Assembly also adopted the decisions of the Council,[18] including with regard to approval of the applications of four entities for a plan of work to explore marine minerals in the international seabed Area.[19]

26. In relation to environmental reporting to the Legal and Technical Commission by future contractors, the Assembly adopted the decision of the Council calling upon all contractors to provide raw data[20] associated with resource assessment and environmental baseline studies to the Authority. In the same decision, the Council also requested the Secretary-General to prepare a report on the laws, regulations and administrative measures adopted by sponsoring States and other members of the Authority with respect to activities in the Area, and to provide to the Authority information on, or texts of, relevant laws, regulations and administrative measures.

27. The Assembly approved the decision of the Council relating to an environmental management plan for the Clarion-Clipperton Fracture Zone.[21] It also took note of the advisory opinion of the Seabed Disputes Chamber of the International Tribunal for the Law of the Sea on responsibilities and obligations of States sponsoring persons or entities with respect to activities in the Area.[22] The eighteenth session of the Authority will be held in Kingston from 16 to 27 July 2012.

B. International Tribunal for the Law of the Sea

28. The information on major developments in the work of the Tribunal[23] is provided in section XIII of the present report, entitled "Settlement of disputes".

V. Developments relating to international shipping activities

A. Economics of shipping

29. According to the United Nations Conference on Trade and Development (UNCTAD), in tandem with the decline in economic growth and trade, volumes of international seaborne trade contracted by 4.5 per cent in 2009. Recovery took place in 2010, and, in the absence of further upheavals at the global level, losses in 2009 were expected to be recovered in 2011 and beyond.[24]

30. By the beginning of 2010, the world merchant fleet had reached 1.276 billion deadweight tons, representing an increase of 7 per cent compared with 2009. This growth resulted from a record in new deliveries of 117 million deadweight tons, or an increase of 42 per cent compared with 2008, owing to the ordering of ships prior to the downturn in demand. The resulting oversupply of tonnage led to a surge in

[18] The Council was unable to complete its work on the third set of regulations for cobalt-rich ferromanganese crusts, which will be taken up again at the eighteenth session, in 2012.

[19] See ISBA/17/C/9, 10, 11, 13 and 21; see also ISBA/17/C/5 and 7.

[20] See ISBA/17/C/20.

[21] See ISBA/17/C/19.

[22] See ISBA/17/C/6-ISBA/17/LTC/5.

[23] See also the press releases of the Tribunal issued as ITLOS/Press 137, 138, 144 and 145.

[24] See *Review of Maritime Transport 2010* (UNCTAD).

demolitions of older tonnage of more than 300 per cent (33 million deadweight tons).[25]

31. In terms of productivity, UNCTAD estimated that the global average volume of cargo in tons per carrying capacity deadweight tons had decreased. In 2009, the market was particularly difficult for container shipping, as demand fell by 9 per cent, while supply continued to grow, by 5.1 per cent. However, the resumption of manufacturing activity and global trade in containerized goods led to a recovery of demand for liner shipping services in early 2010.[26]

32. According to UNCTAD, by the end of 2009, freight rates in all sectors had recovered from earlier lows, although they were still significantly lower than 2008 levels. Freight rates for 2010 and beyond remained uncertain, as doubts surrounded the recovery from the global economic crisis. In the tanker and liner sectors, freight rates were boosted by absorbing supply rather than by an increase in demand.[27]

B. Safety of navigation

1. Safety of ships

33. At its eighty-eighth session, held from 24 November to 3 December 2010, the Maritime Safety Committee of the International Maritime Organization (IMO) recognized that the continual development of materials for use in the construction of ships and improvement of marine safety standards necessitated the revision of fire test procedures to maintain the highest practical level of safety.[28] The Committee adopted amendments to the International Convention for the Safety of Life at Sea that made mandatory the 2010 International Code for Application of Fire Test Procedures (2010 FTP Code).[29] The new 2010 FTP Code, also adopted at the same session, replaced the 1996 FTP Code and provided the international requirements for laboratory testing, type approval and fire test procedures for products referenced under Chapter II.2 of the Convention.[30] The 2010 Fire Test Procedures Code was expected to enter into force on 1 July 2012.[31]

34. The Maritime Safety Committee also adopted amendments to the 1972 International Convention for Safe Containers, including new specifications on approved examination programmes,[32] and a new chapter 9, on fixed fire detection and fire alarm systems for the International Code for Fire Safety Systems.[33] In addition, the Committee approved a revised resolution on the principles of safe manning and amendments to the International Convention for Safety of Life at Sea relating to mandatory requirements for determining safe manning, with a view to their adoption in 2012.[34]

[25] Ibid.
[26] Ibid.
[27] Ibid.
[28] See resolution MSC.307(88).
[29] MSC 88/26, para. 3.46; see also resolution MSC.308(88).
[30] See resolution MSC.307(88).
[31] See resolution MSC.308(88), annex, regulation 1.
[32] MSC 88/26, paras. 3.51-3.53; see also resolution MSC.310(88).
[33] MSC 88/26, paras. 3.54-3.55; see also resolution MSC.311(88).
[34] MSC 88/26, paras. 11.18-11.21; MSC 88/26/Add.1, annexes 17 and 18.

35. At its eighty-ninth session, held in May 2011, the Maritime Safety Committee adopted amendments to the International Convention for Safety of Life at Sea concerning the replacement of lifeboat on-load release mechanisms not in compliance with the new International Life-Saving Appliance Code. The amendments were intended to establish stricter safety standards for lifeboat release and retrieval systems, aimed at preventing accidents during lifeboat launching, and were expected to enter into force on 1 January 2013.[35]

36. In view of the fact that the 1993 Torremolinos Protocol relating to the 1977 Torremolinos International Convention for the Safety of Fishing Vessels had not yet entered into force,[36] the Committee also agreed on a draft agreement on the implementation of the Protocol in order to achieve the entry into force of the technical provisions on fishing vessel safety (see para. 57 below).[37]

37. The Maritime Safety Committee also approved the Guidelines to Assist Competent Authorities in the Implementation of Part B of the Code of Safety for Fishermen and Fishing Vessels, the Voluntary Guidelines for the Design, Construction and Equipment of Small Fishing Vessels, and the Safety Recommendations for Decked Fishing Vessels of Less than 12 Metres in Length and Undecked Fishing Vessels, and requested the IMO secretariat to forward them to the Food and Agriculture Organization of the United Nations (FAO) and the International Labour Organization (ILO) for concurrent approval, as appropriate.[38]

38. Also at its eighty-ninth session, the Committee approved a number of important instruments for submission to the IMO Assembly in November 2011 for adoption, including draft revised procedures for port State control, which were intended to provide basic guidance on the conduct of port State control inspections and afford consistency in the conduct of inspections, the recognition of deficiencies of a ship, its equipment or its crew, and the application of control procedures.[39] The Committee also approved a new draft International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers.[40]

2. Transport of dangerous goods

39. At the fifty-fourth regular session of the General Conference of the International Atomic Energy Agency (IAEA), in September 2010, measures were adopted to strengthen international cooperation regarding nuclear, radiation, transport and waste safety. In relation to the safety of the maritime transport of radioactive material, IAEA emphasized the importance of maintaining dialogue and

[35] MSC 89/25, paras. 3.37-3.38; see also resolution MSC.317(89).

[36] The Protocol requires signature without reservation as to ratification, acceptance, or approval or deposit of instruments of ratification, acceptance, approval or accession of no fewer than 15 States, the aggregate number of whose fishing vessels of 24 metres in length and over is no fewer than 14,000. As at 1 August 2011, the Protocol had 17 contracting States, with an aggregate number of fishing vessels of 24 metres in length and over of approximately 3,237. See www.imo.org/About/Conventions/StatusOfConventions/Documents/Status%20-%202011.pdf.

[37] MSC 89/25, paras. 9.15-9.26 and 9.36-9.38; see also MSC 89/25/Add.1, annex 18.

[38] See MSC 89/25, para. 9.3.

[39] See MSC 89/25/Add.3, annex 24.

[40] See MSC 89/25/Add.2, annex 14.

consultation aimed at improving mutual understanding, confidence-building and enhanced communication between shipping States and coastal States.[41]

40. With regard to the denial and delay of shipments of radioactive materials, IAEA noted the development of an action plan on denials and urged the Secretariat to actively facilitate its implementation.[42] IAEA also called upon its member States to nominate a national focal point on denials of the shipment of radioactive material, and welcomed the creation of regional action plans and networks to address key issues. In addition, IAEA renewed appeals to its member States to facilitate the transport of such radioactive material when carried out in compliance with its transport regulations.[43]

3. Safe routes for international navigation and long-range identification and tracking of vessels

41. *Ship routing and reporting systems.* At its eighty-eighth session, the Maritime Safety Committee adopted a new mandatory ship reporting system in the Sound between Denmark and Sweden,[44] as well as amendments to the existing mandatory ship reporting systems in the Torres Strait region and the Inner Route of the Great Barrier Reef[45] and off the South and South-West coast of Iceland.[46] It also adopted a number of new and amended traffic separation schemes,[47] as well as routing measures other than traffic separation schemes.[48] Furthermore, the Committee decided that these schemes should be implemented effective 1 June 2011.[49]

42. *Safety zones around artificial islands, installations and structures in the exclusive economic zone.* At its eighty-eighth session, the Maritime Safety Committee approved a safety-of-navigation circular on guidelines for safety zones and safety of navigation around offshore installations and structures that had been developed by the IMO Subcommittee on Safety of Navigation at its fifty-sixth session, in July 2010.[50] The Subcommittee considered that there was no demonstrated need to establish safety zones larger than 500 metres around artificial islands, installations and structures or to develop guidelines to do so, and that continuation of the work beyond 2010 was no longer necessary.[51]

[41] IAEA General Conference resolution entitled "Measures to strengthen international cooperation in nuclear, radiation, transport and waste safety" (GC(54)/RES/7), para. 36.

[42] Ibid., para. 42.

[43] Ibid.

[44] MSC 88/26, para. 11.6; see also resolution MSC.314(88).

[45] MSC 88/26, para. 11.6; see also resolution MSC.315(88).

[46] MSC 88/26, para. 11.6; see also resolution MSC.316(88).

[47] MSC 88/26, paras. 11.2-11.3; see also MSC 88/26/Add.1, annex 11.

[48] MSC 88/26, para. 11.4; see also MSC 88/26/Add.1, annex 12.

[49] MSC 88/26, para. 11.5.

[50] MSC 88/26, paras. 11.8-11.9; see also SN.1/Circ.295.

[51] NAV 56/20, para. 4.15. Article 60(5) of the United Nations Convention on the Law of the Sea provides that safety zones around artificial islands, installations and structures in the exclusive economic zone shall not exceed a distance of 500 metres, except as authorized under generally accepted international standards or as recommended by the competent international organization.

43. *Long-range identification and tracking.* Further progress was made by IMO in the establishment of the long-range identification and tracking system.[52] As at 6 May 2011, 64 data centres were operating in the production environment of the system, providing services to 93 contracting Governments to the International Convention for Safety of Life at Sea, and another 10 data centres were undergoing developmental or integration testing or had not yet requested to start testing.[53] The Committee urged the contracting Governments that were in the process of establishing data centres to complete developmental and integration testing and to become part of the production environment of the system as soon as possible. Progress was made on the transfer of operations of the international long-range identification and tracking data exchange from its production environment in the United States of America to the European Maritime Safety Agency in Portugal, and agreement was reached on the operation of the data exchange.[54]

4. Hydrographic surveying and nautical charting

44. At its fifty-seventh session, held from 6 to 10 June 2011, the IMO Subcommittee on Safety of Navigation noted that, for only 6 of the 154 States with coastlines, and for the coastline of Antarctica, five or more electronic nautical charts remained to be produced in order to match corresponding paper chart coverage at the medium scale. In addition, with respect to the world's top 800 ports in terms of total tonnage, only eight coastal States had yet to produce electronic nautical charts that matched the coverage provided by paper charts of those ports.[55] Following a grounding incident, one of the main causes of which had been faulty updating of electronic nautical charts and paper charts, the attention of the Subcommittee was drawn to the need to ensure consistent updating of electronic nautical charts and paper charts.[56]

45. The Subcommittee noted with interest that the Arctic coastal States had established the Arctic Regional Hydrographic Commission in October 2010, which aimed to facilitate regional cooperation with respect to hydrographic surveys, the production of nautical charts, capacity-building and technical cooperation.[57] Prior to the launching of this initiative, the Arctic had been a major part of the world oceans not covered by a regional hydrographic commission.[58]

C. Implementation and enforcement

46. States can fully realize the benefits of becoming parties to instruments aimed at promoting maritime safety, security and the prevention of pollution from ships only when all parties carry out their obligations under the instruments. In this

[52] In accordance with regulation V/19-1 of the International Convention for the Safety of Life at Sea, ships constructed on or after 31 December 2008 shall be equipped with a system to automatically transmit long-range identification and tracking information and ships constructed before 31 December 2008 shall transmit such information not later than the first survey of the radio installation after 31 December 2008.

[53] MSC 89/25, para. 6.6.

[54] Ibid., paras. 6.12-6.17; see also resolution MSC.322(89).

[55] NAV 57/15, para. 6.12.

[56] Ibid., para. 14.49.

[57] Ibid., para. 14.7.

[58] NAV 57/INF.3, para. 3.

regard, flag States have the primary responsibility to have in place an adequate and effective system to exercise control over ships flying their flag and to ensure that their vessels comply with relevant international rules and regulations in respect of maritime safety, security and the protection of the marine environment.[59]

47. At its eighty-ninth session, the Maritime Safety Committee approved the proposed draft IMO Instruments Implementation Code, which is the new title for the mandatory version of the Code for the Implementation of Mandatory IMO Instruments. The objective of the IMO Instruments Implementation Code is to enhance global maritime safety and the protection of the marine environment and assist States in the implementation of IMO instruments.[60] The draft IMO Instruments Implementation Code will be forwarded to the Marine Environment Protection Committee for consideration and approval and then to the IMO Assembly for adoption.

48. With regard to port State control, the Maritime Safety Committee approved draft Procedures for Port State Control, 2011, together with the associated draft Assembly resolution, for submission to the twenty-seventh session of the IMO Assembly for adoption in 2011.[61] The Procedures were subsequently approved by the Marine Environment Protection Committee at its sixty-second session.[62]

49. In order to ensure compliance with structural safety and with the 1966 International Convention on Load Lines, a joint concentrated inspection campaign on structural safety and load lines will be conducted from September to November 2011 in the context of the 1982 Paris Memorandum of Understanding on Port State Control and the 2008 Memorandum of Understanding on Port State Control in the Asia-Pacific Region.[63] The States members of the 1992 Viña del Mar Agreement, the 1998 Memorandum of Understanding on Port State Control for the Indian Ocean Region, the 1997 Memorandum of Understanding on Port State Control in the Mediterranean Region, and the 2000 Memorandum of Understanding on Port State Control in the Black Sea Region would be taking similar action during the campaign.[64]

D. Maritime casualties and incidents

50. At its eighty-eighth session, the Maritime Safety Committee recognized the importance of better utilization of the Global Integrated Shipping Information System database for analysing shipping accidents, and reiterated its invitation to IMO member States to provide details of their investigation reports to IMO.[65] It also instructed the IMO Subcommittee on Flag State Implementation to consider how the collection of accident investigation data by IMO could be improved.[66]

[59] See FSI 19/19/Add.1, annex 8.

[60] MSC 89/25, paras. 12.12-12.18; see also MSC 89/25/Add.3, annex 26.

[61] MSC 89/25, para. 12.8.

[62] See report of the Marine Environment Protection Committee on its sixty-second session (MEPC 62/24).

[63] See www.parismou.org/Publications/Press_releases/2011.07.21/Launch_of_concentrated_inspection_campaign_on_structural_safety_and_Load_Lines.htm.

[64] See, for example, www.parismou.org; see also IMO progress report on the current status of regional port State control agreements (FSI 19/6/2).

[65] MSC 88/26, paras. 19.1-19.7.

[66] Ibid.

E. Wreck removal

51. The 2007 Nairobi International Convention on the Removal of Wrecks has not yet entered into force.[67] At its ninety-eighth session, in April 2011, the IMO Legal Committee approved a draft resolution for submission to the IMO Assembly on the issuance of wreck removal certificates to bareboat-registered vessels, which recommended that such certificates be issued by the flag State. This measure is intended to assist States in ratifying the Convention by, inter alia, removing ambiguity regarding the issuance of wreck removal certificates to bareboat-registered vessels.[68]

VI. People at sea

A. Seafarers and fishers

1. Seafarers

52. At its ninety-eighth session, the IMO Legal Committee agreed on a draft Assembly resolution (LEG 98/14, annex 2), aimed at promoting compliance with the 2006 IMO/ILO Guidelines on the Fair Treatment of Seafarers in the event of a Maritime Accident.[69]

53. As at July 2011, the 2006 Maritime Labour Convention had received 15 ratifications, representing more than 50 per cent of the world gross tonnage of ships.[70] Once the 2010 Standards of Training Certification and Watchkeeping for Seafarers amendments adopted in Manila come into force in January 2012, several aspects of the Convention will already have become mandatory for seafarers covered by the Standards.

54. In order to facilitate the ratification, entry into force and subsequent implementation of the Convention, ILO conducts capacity-building activities in the form of training workshops. It also seeks, through its Maritime Labour Academy, established in early 2011,[71] to build legislative drafting capacity by developing model provisions and guidance on the more complex or newer provisions of the Convention, namely, the provisions on occupational safety and health and on social security.[72]

55. ILO held consultations on the Seafarers' Identity Documents Convention (Revised), 2003 (No. 185), in September 2010. The purpose of the consultations was to discuss challenges to the implementation of the Convention and ways of allowing for the achievement of its objectives.[73]

[67] See www.imo.org/About/Conventions/StatusOfConventions/Documents/Status%20-%202011.pdf.

[68] LEG 98/14, paras. 13.10-13.15, annex 8.

[69] See www.imo.org/MediaCentre/PressBriefings/Pages/20-LEG-98.aspx.

[70] See www.ilo.org/ilolex/cgi-lex/ratifce.pl?C186.

[71] See www.ilo.org/global/standards/maritime-labour-convention/WCMS_154969/lang--en/index.htm.

[72] See http://mlc-training.itcilo.org/training-courses.

[73] See CSID/C.185/2010/4, available from www.ilo.org/global/standards/maritime-labour-convention/WCMS_150402/lang--en/index.htm.

56. The IMO Secretary-General, in an open letter issued on 11 February 2011,[74] reviewed the achievements accomplished under the theme of the 2010 World Maritime Day, "2010: year of the seafarer", including increased public awareness of seafarers and their work. On 25 June 2011, IMO observed the first "Day of the Seafarer".[75]

2. Fishers

57. The IMO Council, at its session held from 27 June to 1 July 2011, adopted a decision to convene a diplomatic conference in South Africa in 2012, for the purpose of adopting an agreement on the implementation of the 1993 Protocol relating to the 1977 Torremolinos International Convention for the Safety of Fishing Vessels.[76] The agreement would amend the technical provisions of the 1993 Protocol.

58. The Governing Body of the International Labour Office requested the ILO Director-General to publish the guidelines, adopted in February 2010, for port State control officers carrying out inspections under the 2007 Work in Fishing Convention (No. 188).[77]

59. FAO, ILO and IMO have long cooperated with regard to the safety of fishers and fishing vessels (see para. 37 above).[78]

B. International migration by sea

60. While it remains difficult to establish precise figures, the Office of the United Nations High Commissioner for Refugees (UNHCR) provided the following information concerning the number of arrivals of people seeking to migrate by sea through irregular means in 2010: 1,765 to Greece from Turkey, with 41 individuals reported dead or missing; 4,348 to Italy from North Africa, Greece and Turkey, with 8 reported dead or missing; 28 to Malta from North Africa; and 3,632 to Spain from North and West Africa, with 74 reported dead or missing.[79] IMO indicates that in 2010, a total of 86 incidents related to unsafe practices associated with the trafficking or transport of migrants by sea, involving 2,376 migrants, were reported. Those migrants came from the Middle East (1,233), Asia (586), Africa (414), and Europe (34).[80]

61. In the first few months of 2011, UNHCR noted that developments in North Africa had led to the movement of hundreds of thousands of people to neighbouring countries and also across the Mediterranean, often in unseaworthy vessels. Its

[74] "IMO Secretary-General Mitropoulos reaches out to seafarers in open letter", 3 March 2011, available from www.imo.org/MediaCentre/PressBriefings/Pages/10-letter-to-seafarers.aspx.

[75] A/65/69/Add.2, para. 83; see also www.imo.org/MediaCentre/PressBriefings/Pages/Day-of-the-Seafarer.aspx.

[76] See www.imo.org/MediaCentre/PressBriefings/Pages/39councilfishingconf.aspx.

[77] See para. 321 of the minutes of the 309th session of the Governing Body of the International Labour Office (GB.309/PV), available from www.ilo.org/public/libdoc/ilo/P/09601/09601(2010-309).pdf.

[78] See www.fao-ilo.org/fao-ilo-fisheries/.

[79] UNHCR, "Key facts and figures", available from www.unhcr.org/pages/4a1d406060.html.

[80] IMO, first biannual report on unsafe practices associated with the trafficking or transport of migrants by sea (MSC.3/Circ.19), available from www.imo.org.

statistics indicate that, to date, 14,000 people have arrived in Italy and Malta by boat from Libya. UNHCR[81] and the IMO Secretary-General[82] expressed concern about the high number of casualties in the Mediterranean Sea and urged States to strengthen the rescue-at-sea regime in the Mediterranean through early initiation of search-and-rescue operations, better coordination and information-sharing.

62. In March 2011, complete search-and-rescue coverage around Africa's coast was established with the signing of an ad hoc multilateral cooperation agreement on the North and West African subregional Maritime Rescue Coordination Centre. The agreement establishes a new Maritime Rescue Coordination Centre near Rabat, with associated sub-centres.[83]

63. Following this development, the Maritime Safety Committee, at its eighty-ninth session, approved the development of a technical cooperation project aimed at the establishment of two regional Maritime Rescue Coordination Centres and five associated sub-centres in Central America for search-and-rescue coordination purposes.[84]

64. *Stowaways*. According to the IMO annual report on stowaways, 253 incidents, involving 721 stowaways, occurred in 2010. The statistics indicate that 136 stowaways embarked from the Mediterranean, the Black Sea and the North Sea region; 63 from West African countries; 25 from North and South America and the Caribbean region; and 12 from the Indian Ocean and East Africa region; and 485 embarked in unknown ports.[85] For the period from 1 January to 30 April 2011, a total of 14 stowaway incidents, involving 23 stowaways, were reported to IMO.[86]

65. The draft revised guidelines on the prevention of access by stowaways and the allocation of responsibilities to seek the successful resolution of stowaway cases were adopted by the Maritime Safety Committee at its eighty-eighth session, in December 2010, and by the Facilitation Committee at its thirty-seventh session, in May 2011. They were expected to be issued as a joint document by the two Committees later in 2011. In its resolution on the adoption of the revised guidelines, the Committee urged Governments to implement in their national policies and practices the amended procedures recommended in the guidelines as from 1 October 2011.[87]

66. *Trafficking of persons and smuggling of migrants by sea*. The United Nations Office on Drugs and Crime continues to provide technical assistance to States, at their request, in implementing the 2000 Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime, and the 2000 Protocol

[81] See para. 13.17 of the report of the IMO Maritime Safety Committee on its eighty-ninth session (MSC 89/25), available from www.useg.mil/imo/msc/docs/msc89-report.pdf.

[82] "IMO Secretary-General expresses deep sadness over Mediterranean migrants' deaths", 7 April 2011, available from www.imo.org/MediaCentre/PressBriefings/Pages/19-migrants.aspx.

[83] See paras. 13.27 and 13.28 of the report of the IMO Maritime Safety Committee on its eighty-ninth session. This Maritime Rescue Coordination Centre will join those in Mombasa, Kenya; Cape Town, South Africa; Lagos, Nigeria; and Monrovia.

[84] Ibid., para. 13.38.

[85] See IMO report on stowaway incidents in 2010 (FAL.2/Circ.121).

[86] See IMO report on stowaway incidents from January to April 2011 (FAL.2/Circ.122).

[87] See report of the Facilitation Committee on its thirty-seventh session (FAL 37/6); see also A/65/69/Add.2, para. 92.

against the Smuggling of Migrants by Land, Sea and Air, supplementing the United Nations Convention against Transnational Organized Crime.[88] As at 22 August 2011, there were 163 States parties to the United Nations Convention against Transnational Organized Crime and the Protocols thereto, and the Protocols, on the trafficking in persons, the smuggling of migrants, and firearms, had been ratified by 146, 129 and 89 States, respectively.[89]

67. The Office also continues to provide specialized technical assistance to Member States and relevant actors to assist them in combating and preventing the smuggling of migrants and the trafficking in persons, including through the specialized Joint Port Control Units of its Global Container Programme.

68. On 22 March 2011, the European Commission, the European Investment Bank and IMO launched a study on maritime cooperation in the Mediterranean, which is aimed at, inter alia, providing elements that will facilitate the development of integrated maritime surveillance.[90]

VII. Maritime security

69. Crimes at sea, including piracy and armed robbery against ships, terrorist acts against shipping and other maritime interests, and transnational organized crimes, such as illegal traffic in narcotic drugs and psychotropic substances, threaten the lives and livelihoods of seafarers and the security of States, and disrupt legitimate uses of the oceans and their resources.

A. Piracy and armed robbery against ships

70. In the first five months of 2011, 273 attacks were reported worldwide, compared with 171 in 2010.[91] In 2010, the number of acts or attempted acts of piracy and armed robbery at sea worldwide, as reported to IMO, was 489,[92] compared with 406 in 2009.[93]

71. At the regional level in 2010, the following numbers of incidents were reported to IMO: 172 in East Africa, 77 in the Indian Ocean, 16 in the Arabian Sea, 134 in the South China Sea, 40 in South America and the Caribbean, 47 in West Africa, 2 in the Persian Gulf, and 1 in the Mediterranean Sea. According to IMO, most of the attacks were reported to have occurred or to have been attempted in international waters, which was owing largely to the steep increase in incidents off the coast of Somalia and in the Indian Ocean. However, in other regions, the majority of incidents occurred in the territorial waters of the coastal States concerned while the ships were at anchor or berthed.[94]

[88] See General Assembly resolution 55/25, annexes II and III.

[89] See www.unodc.org/unodc/en/treaties/CTOC/signatures.html.

[90] See "Mediterranean maritime cooperation: joining forces to promote maritime growth", 23 March 2011, available from www.imo.org/MediaCentre/PressBriefings/Pages/14-EC-EIB-IMO-Med.aspx.

[91] See IMO monthly reports on acts of piracy and armed robbery against ships.

[92] MSC.4/Circ. 169, para. 5.

[93] See report of the IMO Maritime Safety Committee on its eighty-seventh session (MSC 87/26).

[94] MSC.4/Circ. 169, para. 6.

72. In the first six months of 2011, the International Maritime Bureau of the International Chamber of Commerce reported that it had received 266 reports of attacks; 163 were attributable to Somali pirates, compared with 100 in the same period in 2010. This represented a 63 per cent increase and was the highest number ever. The Bureau also noted that there had been a number of attacks off the coast of Benin and Nigeria in the Gulf of Guinea.[95]

73. *Piracy and armed robbery against ships in Asia.* The Information-Sharing Centre of the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia reported that the period January-June 2011 was characterized by an overall increase in incidents compared with the same period over the past four years. There was an increase in the number of incidents at ports and anchorages in Indonesia, the Straits of Malacca and Singapore. However, there was an improvement in the situation at the ports and anchorages in Bangladesh and Viet Nam.[96]

74. *Piracy and armed robbery against ships off the coast of Somalia.* According to the International Maritime Bureau, attackers are using hijacked ocean-going vessels as "mother ships" to carry out their operations. This has enabled them to expand their geographical scope.[97] According to IMO, the wider operational range of Somali-based pirates led to an increase in the number of incidents in the Indian Ocean and Arabian Sea but to a decrease in incidents off the coast of East Africa.[98] Although the overall number of attempted attacks rose, the number of successful attacks fell. Most of the attacks involved weapons and therefore endangered seafarers.[99] It was reported at the ninth plenary meeting of the Contact Group on Piracy off the Coast of Somalia[100] that, as at 11 July 2011, 17 ships and 393 crew members were being held, compared with 26 ships and 573 hostages in March 2011.[101] This decrease was attributed to the actions of the naval forces operating in the region pursuant to Security Council resolutions[102] and to preventive measures used by merchant vessels.

75. The Security Council continues to be gravely concerned at the growing threat of piracy and armed robbery at sea off the coast of Somalia. In its resolution 1950 (2010), it once again decided to renew for a further period of 12 months the

[95] See report of the International Maritime Bureau of the International Chamber of Commerce on piracy and armed robbery against ships, 1 January-30 June 2011.

[96] See half-yearly report (1 January 2011-30 June 2011) of the Information-Sharing Centre of the Regional Cooperation Agreement on Combating Piracy and Armed Robbery, available from www.recaap.org/Portals/0/docs/Reports/Half%20Yearly%202011%20Report.pdf.

[97] See report of the International Maritime Bureau of the International Chamber of Commerce on piracy and armed robbery against ships, 1 January-30 June 2011.

[98] MSC.4/Circ. 169, para. 6.

[99] See report of the International Maritime Bureau of the International Chamber of Commerce on piracy and armed robbery against ships, 1 January-30 June 2011. See also annex I to the report of the Secretary-General on the modalities for the establishment of specialized Somali anti-piracy courts of 15 June 2011 (S/2011/360).

[100] The Contact Group on Piracy off the Coast of Somalia held its seventh, eighth and ninth plenary meetings on 10 November 2010, 21 March and 14 July 2011, respectively. For background information on the Contact Group, see A/65/69/Add.2, para. 111.

[101] See communiqué from the ninth plenary meeting of the Contact Group on Piracy off the Coast of Somalia.

[102] See resolutions 1816 (2008), 1838 (2008), 1846 (2008), 1851 (2008), 1897 (2009) and 1950 (2010).

authorizations set out in paragraph 10 of its resolution 1846 (2008) and paragraph 6 of its resolution 1851 (2008), as renewed by resolution 1897 (2009), which had been granted to States and regional organizations cooperating with the Transitional Federal Government in the fight against piracy and armed robbery at sea off the coast of Somalia.

76. Both the Security Council and the General Assembly have stressed the need for a comprehensive response in tackling piracy and its underlying causes.[103] In paragraph 7 of its resolution 1976 (2011), the Council requested the Secretary-General to report on the protection of Somali natural resources and waters and on alleged illegal fishing and illegal dumping, including of toxic substances, off the coast of Somalia. The report was scheduled to be issued in October 2011.

77. In his report to the Secretary-General, the former Special Adviser to the Secretary-General on Legal Issues Related to Piracy Off the Coast of Somalia, Mr. Jack Lang, put forward 25 proposals aimed at combating piracy off the coast of Somalia, including the establishment of a court system comprising a specialized court in "Puntland", a specialized court in "Somaliland" and an extraterritorial Somali specialized court.[104] On 21 June, the Security Council considered the report of the Secretary-General on the modalities for the establishment of specialized Somali anti-piracy courts (S/2011/360), submitted pursuant to Security Council resolution 1976 (2011).

78. The Security Council and the Contact Group on Piracy off the Coast of Somalia continued to emphasize the importance of prosecution.[105] In my report to the Security Council (S/2011/360), I indicated that there were 20 States prosecuting 1,011 pirates; the States were Belgium, the Comoros, France, Germany, India, Japan, Kenya, Madagascar, Malaysia, Maldives, the Netherlands, Oman, Seychelles, Somalia ("Puntland", "Somaliland" and "South Central"), the Republic of Korea, Spain, the United Arab Emirates, the United Republic of Tanzania, the United States and Yemen.[106] The programme of assistance of the United Nations Office on Drugs and Crime to States in the region to prosecute and imprison persons suspected of acts of piracy focuses, in particular, on States that have agreed to receive suspects arrested by naval forces.[107] The United Nations Development Programme (UNDP) and the Office continued their cooperation with the Transitional Federal Government and Somali regional authorities and provided assistance to piracy prosecutions in "Somaliland" and "Puntland". They are also providing assistance with respect to the capacity of courts and incarceration facilities.[108]

79. Concerning the criminalization of piracy in national legislation, IMO issued circular letter No. 3180 of 17 May 2011, containing information and guidance on elements of international law relating to piracy that might be useful to States that are

[103] See preamble to resolution 1976 (2011) and para. 2; see also General Assembly resolution 65/37 A, para. 93.

[104] See letter dated 25 January 2011 from the Secretary-General to the President of the Security Council (S/2011/30), annex.

[105] See, for example, paras. 13 and 14 of resolution 1976 (2011); see also communiqué from the ninth plenary meeting of the Contact Group on Piracy off the Coast of Somalia.

[106] See S/2011/360, annex I; see also communiqué from the ninth plenary meeting of the Contact Group on Piracy off the Coast of Somalia.

[107] See S/2011/360, annex V.

[108] See S/2011/360.

either developing national legislation on piracy or reviewing existing legislation. The material in the circular letter had been prepared by the Division for Ocean Affairs and the Law of the Sea, the IMO secretariat, the United Nations Office on Drugs and Crime and the Government of Ukraine. The Division presented its work on elements of national legislation on piracy, pursuant to the Convention, to Government officials at a workshop on legal training for counter-piracy operations, organized by IMO and the Office and held in Djibouti in March 2011.

80. With regard to the financial aspects of Somali piracy, the Security Council has underlined the need to investigate and prosecute those who illicitly finance, plan, organize or unlawfully profit from pirate attacks off the coast of Somalia.[109] The United Nations Office on Drugs and Crime organized a meeting in Nairobi in May 2011 to address piracy and its links to illicit financing.[110] At its ninth plenary meeting, the Contact Group established Working Group 5 to focus on and coordinate efforts to disrupt the pirate enterprise ashore.[111]

81. Given the continuing threat of piracy, the protection of ships is important. It has been reported that the use of the industry-developed best management practices in respect of piracy off the coast of Somalia and in the Arabian Sea area has reduced the likelihood of a successful attack.[112] At its eighty-ninth session, the Maritime Safety Committee of IMO approved a circular on interim guidance for shipowners, ship operators and shipmasters on the use of privately contracted armed security personnel on board ships in the High-Risk Area[113] and interim recommendations for flag States on the same matter.[114] Each flag State, individually, is to decide whether or not and under what conditions armed security personnel should be authorized for use on board ships flying their flag.[115] On 11 August 2011, the Chamber of Shipping, on behalf of a number of shipping industry associations, wrote a letter to the Secretary-General expressing their grave concern at the continually increasing threat of piracy off the coast of Somalia. In particular, the letter contained a proposal on the establishment of a United Nations force of armed military guards that could be deployed in small numbers on board merchant ships as part of effective counter-piracy measures in the area.

82. On 3 February 2011, IMO launched the theme of the 2011 World Maritime Day, "Piracy: orchestrating the response". The "Kampala process", a Somali forum on counter-piracy efforts in Somalia, continued to be a useful dialogue and confidence-building mechanism.[116] In April 2011, a high-level international conference entitled "Global threat, regional responses: forging a common approach to maritime piracy" was organized in Dubai, United Arab Emirates.[117]

[109] Resolution 1976 (2011), para. 15.

[110] S/2011/360, para. 65.

[111] See communiqués from the eighth and ninth plenary meetings of the Contact Group on Piracy off the Coast of Somalia.

[112] Ibid.

[113] See MSC.1/Circ.1405.

[114] Ibid.

[115] Ibid.

[116] See communiqué from the ninth plenary meeting of the Contact Group on Piracy off the Coast of Somalia.

[117] See http://counterpiracy.ae/.

83. *Piracy and armed robbery against ships in the Gulf of Guinea.* In a press statement issued on 23 August 2011,[118] the Security Council expressed concern at the reported increase in piracy, maritime armed robbery and hostage-taking in the Gulf of Guinea and its damaging impact on security, trade and economic activities in the subregion. The Council noted the efforts being made by countries in the Gulf of Guinea to tackle the problem, including the launching of joint naval patrols, and plans to convene a summit of Gulf of Guinea Heads of State to discuss a regional response. The need for regional coordination and leadership in developing a comprehensive strategy to address this threat was emphasized, and the Council called on the international community to support the concerned countries, the Economic Community of West African States, the Economic Community of Central African States and other relevant organizations, as appropriate, in securing international navigation along the Gulf of Guinea, including through information exchange, improved coordination and capacity-building. The Council also stressed the need for the United Nations Office for West Africa and the United Nations Office for Central Africa to work within their current mandates, with the United Nations Office on Drugs and Crime and IMO, and with all concerned countries and regional organizations.

B. Terrorist acts against shipping, offshore installations and other maritime interests

84. At its eighty-ninth session, the Maritime Safety Committee approved the "IMO User Guide to SOLAS Chapter XI-2 and the ISPS Code", which provides guidance to IMO member States on the application of chapter XI-2 of the International Convention for the Safety of Life at Sea and the International Ship and Port Facility Security Code through the development of appropriate legal frameworks, associated administrative practices and procedures, and necessary material, technical and human resources.[119]

C. Transnational organized crime

85. At its twentieth session, in April 2011, the Commission on Crime Prevention and Criminal Justice of the United Nations Office on Drugs and Crime adopted a resolution on combating the problem of transnational organized crime committed at sea, in which it urged Member States to strengthen international cooperation at all levels in combating transnational organized crime committed at sea, including through domestic legislation and legal frameworks. The Commission requested the Office to convene an expert meeting with a view to identifying specific areas in which it could facilitate the investigation and prosecution of cases by Member States.[120]

[118] See http://www.un.org/News/Press/docs//2011/sc10372.doc.htm. The members of the Security Council were briefed by B. Lynn Pascoe, Under-Secretary-General for Political Affairs, on the issue of piracy and maritime armed robbery in the Gulf of Guinea, off the coast of West Africa, on 23 August 2011.

[119] See report of the Maritime Safety Committee on its eighty-ninth session (MSC 89/25, para. 4.25); see also MSC 89/WP.6/Add.1.

[120] See report of the Commission on its twentieth session, Vienna, 3 December 2010 and 11-15 April 2011 (E/CN.15/2011/21).

1. Illicit traffic in narcotic drugs and psychotropic substances

86. According to the United Nations Office on Drugs and Crime *World Drug Report 2011*, there has been a decline in maritime seizures of some drugs, which may be due in part to improved upstream interception efforts as a result of enhanced sharing of intelligence and enforcement of laws in drug-producing countries.[121]

87. At its fifty-fourth session, held in December 2010 and March 2011, the Commission on Narcotic Drugs emphasized the urgent need for Member States to strengthen international cooperation in monitoring and control systems at all points of entry and exit of narcotic drugs and psychotropic substances, including airports, seaports, and river and customs posts.[122] The United Nations Office on Drugs and Crime has undertaken a wide range of capacity-building activities to assist States in addressing drug trafficking, such as the launching, in June 2010, of the Office's Centre of Excellence on Maritime Security in Panama City.

88. At the regional level, Heads of National Drug Law Enforcement Agencies, Africa, at its twentieth meeting, highlighted the challenges posed for West African States by the trafficking of cocaine by sea and the challenges posed for East African States by the use of sea routes for trafficking in heroin, especially with regard to enforcement.[123]

89. At the meeting of Heads of National Drug Law Enforcement Agencies, Asia and the Pacific, it was noted that trafficking networks were becoming more sophisticated in using sea freight containers, including through the fraudulent use of duplicate container seal numbers and the contamination of legitimate sea container cargoes with illicit drugs.[124]

90. In Latin America and the Caribbean, some Governments are countering the threat posed by the use of submersible vessels in trafficking, through investments in technologically advanced equipment such as aircraft and non-intrusive search equipment to inspect containers, and through the training of personnel.[125]

2. Transnational organized crime in the fishing industry

91. In April 2011, the United Nations Office on Drugs and Crime issued a study on transnational organized crime in the fishing industry, with a focus on the trafficking in persons, the smuggling of migrants and the illicit traffic in narcotic drugs and

[121] UNODC, *World Drug Report 2011* (United Nations publication, Sales No. E.11.XI.10) available from www.unodc.org/documents/data-and-analysis/WDR2011/World_Drug_Report_2011_ebook.pdf. See also "The transatlantic cocaine market", UNODC, April 2011, available from www.unodc.org/documents/data-and-analysis/Studies/Transatlantic_cocaine_market.pdf.

[122] See *Official Records of the Economic and Social Council, 2011, Supplement No. 8* (E/2011/28), chap. I, sect. C, resolution 54/8 of the Commission on Narcotic Drugs on strengthening international cooperation and regulatory and institutional frameworks for the control of precursor chemicals used in the illicit manufacture of synthetic drugs.

[123] See report of the twentieth meeting of Heads of National Drug Law Enforcement Authorities, Africa (Nairobi, 12-17 September 2010) (UNODC/HONLAF/20/6).

[124] See report of the thirty-fourth meeting of Heads of National Drug Law Enforcement Agencies, Asia and the Pacific (Bangkok, 30 November-3 December 2010) (UNODC/HONLAP/34/6).

[125] See report of the twentieth meeting of Heads of National Drug Law Enforcement Agencies, Latin America and the Caribbean (4-7 October 2010) (UNODC/HONLAC/20/6).

psychotropic substances.[126] Some of the findings and conclusions of the study indicate that fishers are sometimes trafficked for the purpose of forced labour on board fishing vessels; fishing vessels are used for the smuggling of migrants, illicit traffic in drugs (primarily cocaine) and weapons, and acts of terrorism; and the fishing licensing and control system is vulnerable to corruption.[127]

VIII. Marine scientific research, marine science and technology

A. Marine scientific research and the law of the sea

92. At its twenty-sixth session, held in June and July 2011, the Assembly of the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO) discussed the review of the IOC Advisory Body of Experts on the Law of the Sea.[128]

93. In view of the low number of responses to the questionnaire on opportunities for future advice by the Advisory Body, the IOC Assembly extended the duration of the review and the ad hoc open-ended working group established in that regard until October 2011.[129] Noting that various new issues were emerging with respect to marine scientific research and the law of the sea,[130] the Assembly also tasked the working group with suggesting a mechanism to identify and prioritize issues of high interest to IOC and its member States. For example, preliminary analysis of the replies by States revealed a growing need in Africa, in particular, for additional capacity-building such as training in matters related both to the law of the sea and to marine scientific research.[131]

94. The IOC Assembly emphasized the key role of the Commission in supporting the objectives of the regular process for global reporting and assessment of the state of the marine environment, including socio-economic aspects (the Regular Process). The Assembly encouraged IOC to further identify and develop areas and modalities of cooperation through discussions with the Division.[132]

95. In anticipation of the United Nations Conference on Sustainable Development, to be held in Rio de Janeiro, in June 2012, the Assembly adopted a statement on the "IOC special contribution to sustainable development".[133]

96. In order to promote integrated research, the International Council for Science established the Earth system visioning process in 2011 to identify critical questions to be addressed to ensure Earth system sustainability. The process will engage the scientific community in exploring options for a holistic strategy that would employ the full range of sciences and humanities as well as stakeholders and decision makers. Partners in the project include UNESCO, IOC, the United Nations

[126] See www.unodc.org/unodc/en/human-trafficking/2011/issue-paper-transnational-organized-crime-in-the-fishing-industry.html.

[127] Ibid.

[128] A/65/69/Add.2, para. 146.

[129] See resolution XXVI-4, contained in document IOC-XXVI/3 prov., annex II.

[130] See draft report of the twenty-sixth session of the IOC Assembly (IOC-XXVI/3 prov. Pt.2), agenda item 4.8.

[131] Ibid.

[132] Ibid. (IOC-XXVI/3 prov. Pt.4), agenda item 4.6.

[133] See IOC resolution XXVI-5 and annex, contained in IOC-XXVI/3 prov., annex II.

Environment Programme (UNEP) and the World Meteorological Organization (WMO). The goals of the new 10-year Earth System Sustainability Initiative are, inter alia, to deliver, at the global and regional levels, the knowledge that societies need to effectively address global change while meeting economic and social goals; and to engage a new generation of researchers in social, economic, natural, health and engineering sciences in global sustainability research.[134]

B. Capacity-building in marine science

1. Ocean observing programmes

97. In May 2011, IOC released a Framework for Ocean Observing,[135] developed as an outcome of the OceanObs'09 Conference.[136] The Framework draws on lessons learned from the successes of existing ocean observing efforts and outlines a framework to guide the ocean observing community in establishing the requirements for an integrated and sustained global observing system, including the variables to be measured, the approach to measuring those variables, and the way in which data and products will be managed and made widely available.[137] Not only is the framework aimed at integrating new physical, biogeochemical and ecosystems observations needed to support increasing scientific and societal needs; it also provides a basis for sustaining current observing systems and observations.[138]

98. At its twenty-sixth session, the IOC Assembly resolved[139] to reconstitute the governance of the Global Ocean Observing System, with the aim of streamlining and strengthening it. The new structure reconfirms IOC as the lead sponsor responsible for the Global Ocean Observing System, with WMO, UNEP and the International Council for Science as co-sponsors; confirms that the IOC governing bodies become directly responsible for the governance of the System; dissolves the Global Ocean Observing System Scientific Steering Committee and establishes a new Steering Committee, which is expected to have its first meeting in January 2012; and reinforces cooperation with the IOC regional subsidiary bodies and other relevant bodies.[140] The Assembly also agreed on new terms of reference for the Steering Committee that set out, inter alia, the following activities: identifying ocean variables essential for observation; identifying and encouraging research and operational programmes to enhance and improve the Global Ocean Observing System; and advising on the capacity development of IOC member States to participate in and benefit from the System.[141]

99. Initiatives to enhance the regional and coastal presence of the Global Ocean Observing System, including in polar regions and Africa, have recently been undertaken.[142] It is expected that, in coming years, in the context of the strengthened and streamlined System, opportunities will include: the incorporation

[134] See IOC-XXVI/3 prov. Pt.4, agenda item 8.4.
[135] See IOC/INF-1284.
[136] A/65/69/Add.2, para. 137.
[137] See IOC/INF-1284.
[138] Ibid.
[139] See resolution XXVI-8 contained in document IOC-XXVI/3 prov., annex II.
[140] Ibid.
[141] Ibid.
[142] IOC contribution.

of new biogeochemical observation systems, the delivery of coastal marine management products and tools, the incorporation of new modelling and analysis systems at local scales for coastal and regional seas, continued development of the Global Ocean Observing System presence in Africa, small island developing States and least developed countries, and the integration of tsunami warning system data streams into the System.[143]

100. IOC has released a new manual, which is a scientific summary for policymakers, entitled *The International Thermodynamic Equation of Seawater — 2010: Calculation and Use of Thermodynamic Properties*.[144] The manual describes the new standards for interpretation of the salinity, temperature and pressure of seawater to derive fundamental quantities such as density, speed of sound and heat capacity of seawater,[145] and enhances public awareness of the societal benefits of sustained ocean observations.[146]

101. The World Association of Marine Stations was created in April 2010. It has the potential to become a keystone in a global network of marine stations for coordinated strategies in coastal research, monitoring and related management, and to create opportunities for expanded collaborations all over the world.[147] Although the Association is still being developed,[148] it is already recognized as an important achievement in line with chapter 17 of Agenda 21 with respect to strengthening international and regional cooperation and coordination.[149]

2. International Oceanographic Data and Information Exchange

102. At its twenty-sixth session, the IOC Assembly established an Ocean Biogeographic Information System Project Office to be hosted by the United States, as well as an International Oceanographic Data and Information Exchange Group of Experts for the Information System.[150] The International Oceanographic Data and Information Exchange has been instructed by the Assembly to fully integrate the harmful algae information system into its future workplans.[151]

103. With regard to the exchange of information and data, the IOC Assembly continued to urge IOC member States to establish and/or strengthen national oceanographic data centres, marine libraries and ocean biogeographic information system nodes. The International Oceanographic Data and Information Exchange is also developing capacity through its support for regional data and information management projects and a comprehensive training programme under the OceanTeacher project and the OceanTeacher Academy Training Course.[152]

[143] See www.ioc-goos.org/index.php?option=com_content&view=article&id=339.

[144] IOC/BRO/2010/7.

[145] See www.ioc-goos.org/index.php?option=com_content&view=category&layout=blog&id=45&Itemid=67&lang=en.

[146] Ibid.

[147] IOC contribution.

[148] For more information on the progress and implementation of the World Association of Marine Stations, see IOC-XXVI/2, annex 12.

[149] IOC contribution.

[150] See resolution XXVI-10 contained in document IOC-XXVI/3 prov., annex II.

[151] See resolution XXVI-11.

[152] IOC contribution; see also www.oceanteacher.org.

3. Harmful algal blooms

104. Harmful algal events continue to be globally pervasive and to affect human health and economic interests that depend upon coastal and ocean resources. At its meeting in April 2011, the IOC Intergovernmental Panel on Harmful Algal Blooms identified areas of major achievement, including: (a) the launch of the global ecology and oceanography of harmful algal blooms research plans for the core research projects in fjords and coastal embayments and the development of a research plan for benthic harmful algal blooms; (b) the development of regional activities; (c) the implementation of 10 training courses and training-through-research projects; (d) the continued development of the integrated Intergovernmental Panel on Harmful Algal Blooms-International Oceanographic Data and Information Exchange harmful algae information system; and (e) the continued publication of the IOC *Harmful Algae* News. The Panel adopted several resolutions, concerning (a) regional harmful algal blooms programme development; (b) biotoxin monitoring, management and regulations; (c) the global ecology and oceanography of harmful algal blooms research programme; (d) harmful algae and desalination of seawater; (e) revised terms of reference for the task team on algal taxonomy; (f) harmful algae and global change; and (g) harmful algae and fish-killing marine algae. It also adopted a revised strategy for the Intergovernmental Panel and a focus for activities on the transfer and introduction of harmful algal blooms species by human activity such as shipping (ballast water).[153]

105. At its twenty-sixth session, the IOC Assembly stressed the importance of capacity development, improved public awareness and educational material targeting a wide audience.[154] IOC continues to tailor capacity development activities to address such emerging issues as adaptation to climate change. A needs assessment and a new strategy for capacity development are being devised on the basis of the needs of States.

C. Early warning systems

106. The 11 March 2011 magnitude 9.0 earthquake off the Pacific coast of Tohoku, Japan, and the ensuing tsunami demonstrated that tsunamis are a constant and unpredictable hazard requiring continuous efforts, detection systems and emergency responses.[155] The earthquake generated hundreds of aftershocks, many of them greater than magnitude 6, and caused dramatic loss of life, extensive damage to infrastructure and livelihoods, and pollution of the marine environment.

107. IOC provides the intergovernmental coordination of tsunami early warning and mitigation systems at both the global and regional levels. Overall, more than 400 sea-level stations can report real-time observations through the IOC Sea-Level Station Monitoring Facility. The number of seismic stations that deliver data in real time has increased from 350 in 2004 to more than 1,200 today. With increasingly

[153] See IOC/IPHAB-X/3prov.

[154] See IOC-XXVI/3 prov. Pt.3, agenda item 5.

[155] See *Tsunami* News, Issue 8, July 2011 (UNESCO), available from www.ioc-tsunami.org/images/stories/Newsletter/8.july.2011.pdf.

dense detection networks and more frequent transmission of data, tsunami warning centres can more quickly confirm the existence of a destructive tsunami.[156]

108. *Global systems*. The fourth meeting of the Working Group on Tsunamis and Other Hazards Related to Sea-Level Warning and Mitigation Systems was held in Paris in March 2011. The Working Group evaluated progress in actions and decisions taken by the governing bodies and reviewed an advanced draft of the "Compendium of definitions and terminology on sea-level-related hazards, disasters, vulnerability and risks in a coastal context" and of the joint report of the International tsunameter Partnership and the Data Buoys Cooperation Panel on ocean observing platform vandalism. The Working Group also recommended that an intergovernmental coordination group task team on tsunami hazard assessment be established by the IOC Assembly.

109. At its twenty-sixth session, the IOC Assembly considered the report of the Data Buoys Cooperation Panel and the International Tsunameter Partnership, entitled "Ocean data buoy vandalism: incidence, impact and responses".[157] Noting relevant General Assembly resolutions,[158] the IOC Assembly recognized that vandalism and damage to ocean observing networks took many forms, including ship impacts, incidental damage, direct exploitation of moorings as fish aggregation devices, intentional damage and theft. The Assembly urged member States to adopt preventive and public outreach measures.[159]

110. *Pacific Ocean*. Working Group 2 of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System and its subsidiary task teams met in February and March 2011 in New Zealand, and decided to establish a task team on sea-level monitoring for tsunami detection and warning as its subsidiary body. Recommendations aimed at intensifying seismic training courses for national warning centres and better coordinating with donors on installation, training and data-sharing were adopted by the Pacific Tsunami Warning Centre. It was also acknowledged that over the previous two years, SeisComP3 had become the commonly used regional earthquake analysis system.[160]

111. During the earthquake in Japan in March 2011, the Pacific Tsunami Warning Centre and the Northwest Pacific Tsunami Advisory Centre issued tsunami warning bulletins for most Pacific Ocean countries and kept the national tsunami warning centres updated on the progress of the tsunami.[161] Having improved its seismic detection systems, the Pacific Tsunami Warning Centre was able to identify the location and magnitude of the earthquake within minutes and therefore issue timely regional warnings to the Pacific Ocean countries. The deep-ocean assessment and

[156] IOC contribution.

[157] See Technical Document No. 41 of the Data Buoys Cooperation Panel, available from ftp://wmo.int/Documents/PublicWeb/amp/mmop/documents/dbcp/Dbcp41-Vandalism/DBCP41-Buoy-Vandalism-v1.20.pdf.

[158] Resolutions 64/71, para. 172; 64/72, para. 109; and 65/37 A, para. 196.

[159] IOC resolution XXVI-6 contained in document IOC-XXVI/3, prov, annex II.

[160] For further information, see "SeisComP3 software and hard sensors take new approach to tsunami early warning", available from www.computescotland.com/seiscomp3-software-and-hard-sensors-take-new-approach-to-tsunami-early-warning-1844.php.

[161] See http://itic.ioc-unesco.org.

reporting of tsunami buoys and sea-level monitoring stations also worked well, and the communications systems allowed for near-real-time monitoring of the event.[162]

112. *Indian Ocean.* The eighth session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System was held in Australia in May 2011. The Intergovernmental Group decided to hold an Indian Ocean wave exercise on 12 October 2011.

113. *Mediterranean Sea.* A new Tsunami Information Centre for the North-East Atlantic, the Mediterranean and Connected Seas was established by partners from the three areas, who met in Paris on 1 April 2011. The project is funded by the European Union and is aimed at raising the awareness of organizations and citizens regarding tsunamis.

D. Recent developments in marine technology

114. In my report issued on 22 March 2011, I included updates on recent developments in marine technology, in particular with respect to biodiversity in areas beyond national jurisdiction.[163] The report of the Secretary-General of the Authority also provides information on marine technology in the area of seabed mining.[164]

115. *Energy.* Submarine nuclear power stations were designed to produce 50 to 250 MW of electricity. The small power stations are intended to be moored at a depth of 60 to 100 metres, a few kilometres away from the coastline. Studies are ongoing to review technical options and safety and security aspects of such facilities.[165]

116. Offshore wind turbines have been developed in recent years, in particular in Europe and Asia. The European Wind Energy Association has set a target of installing 40 GW of offshore wind power capacity by 2020.[166] Offshore wind turbine farms are mostly seabed fixed platforms, limited to 30 metres in depth. However, to benefit from stronger and more consistent winds, offshore companies have developed and are continuing to test floating turbines for waters up to 700 metres in depth.[167] While these technologies have a comparatively small footprint on the ocean floor and are less visible if located farther offshore, biologists remain concerned about potential environmental consequences.[168]

117. The SeaGen tidal energy turbine in Northern Ireland,[169] with a 1.2 MW capacity, is the world's only commercial-scale tidal current turbine that generates power into an electricity grid. There are currently plans to deploy four tidal farms in

[162] See http://ndbc.noaa.gov/dart/dart.shtml.

[163] A/66/70, paras. 26-28.

[164] ISBA/17/A/2, paras. 80-88.

[165] See en.dcnsgroup.com/2011/01/20/dcns-va-realiser-avec-areva-le-cea-et-edf-les-etudes-de-validation-de-son-concept-innovant-flexblue.

[166] See www.ewea.org/fileadmin/ewea_documents/documents/publications/reports/Offshore_Report_2009.pdf.

[167] See www.xodusgroup.com/news_pr2011.html, www.intoceansys.co.uk/articles-detail.php?iss=0000000024&acl=0000000176 and ocsenergy.anl.gov/guide/wind/index.cfm.

[168] Ibid.

[169] A/63/63/Add.1, para. 118.

the United Kingdom of Great Britain and Northern Ireland by the end of the decade.[170]

118. Ocean tests are commencing on a wave energy device called the PB150 PowerBuoy,[171] which has a peak-rated power output of 150 kW.[172] The device follows earlier models that have proved capable of responding to sometimes severe wave conditions.

119. The viability of using kelp as a biofuel is being studied, since marine ecosystems are an untapped resource that could account for more than 50 per cent of global biomass.[173]

120. *Shipping*. Satellite remote sensing technologies are increasingly being used for fleet navigation optimization. Altimetry[174] and meteorology satellites with in situ observations[175] to model sea currents in near-real time have been used to optimize ship paths through currents, resulting in fuel savings of up to 8 per cent (on average about 4 per cent).[176] In addition, in 2010 and 2011, satellite radar data[177] were used to analyse and monitor the ice situation along the Northern Sea Route to provide operational routing recommendations to the icebreaker fleet escorting tankers, thereby ensuring safe and cost-effective navigation.[178]

121. *Other*. The Gemini SeaTec Mammal Detection System provides real-time multibeam sonar monitoring of marine wildlife around subsurface turbines. The software provides early warning of the presence of sea mammals,[179] thereby allowing operators sufficient time to take corrective action as required to protect marine life.

E. Submarine cables and pipelines

122. With more than 95 per cent of electronic communications worldwide transmitted via fibre-optic submarine cables, and in view of the recent exponential growth in submarine cables triggered by the Internet, the significance of submarine cables and critical communications infrastructure cannot be underestimated. In April 2011, following on from the 2009 workshop on submarine cables and the law of the sea,[180] the Centre for International Law at the National University of Singapore and the International Cable Protection Committee held a workshop on the protection of submarine cables.[181] At the workshop, recommendations for cooperation between

[170] See www.marineturbines.com/3/news/article/43/seagen__first_tidal_turbine_to_meet_uk_government_s_performance_criteria.

[171] See phx.corporate-ir.net/phoenix.zhtml?c=155437&p=irol-newsArticle&ID=1561072.

[172] This is equivalent to the energy consumption of approximately 150 homes.

[173] See www.aber.ac.uk/en/news/archive/2011/07/title-102522-en.html.

[174] Such as Jason-1, Envisat or ERS-2, Topex/Poseidon and GFO.

[175] Such as Mercator Ocean, Forecast Model, see www.mercator-ocean.fr/fre.

[176] See www.aviso.oceanobs.com/en/news/idm/2011/apr-2011-routing-ships-with-the-currents/index.html.

[177] Such as Radarsat-1.

[178] See www.scanex.ru/en/news/News_Preview.asp?id=n207104129.

[179] See www.tritech.co.uk/news/articles/2011/news-mammal_detection.html.

[180] A/65/69, paras. 71 and 132.

[181] See provisional report of the Co-chairs on the 2011 Workshop on the Protection of Submarine Cables, available from http://cil.nus.edu.sg/programmes-and-activities/past-events/international-workshop-cil-icpc-workshop-on-the-protection-of-submarine-cables.

Governments and industry at the national, regional and global levels were issued. The recommendations noted a need to: highlight gaps in the legal regime within the United Nations and the International Telecommunications Union; highlight specific concerns through, as pertinent, IMO and FAO; and propose the adoption of a convention to make the intentional destruction or damaging of submarine cables or related infrastructure an international crime.

F. Protection of archaeological and historical objects

123. The third session of the Meeting of States Parties to the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage was held in Paris in April 2011 to, inter alia, address the further elaboration of the operational guidelines and follow up on the recommendations of the Scientific and Technical Advisory Body.[182]

124. At its second meeting, on 15 April 2011, the Scientific and Technical Advisory Body discussed, inter alia, the most significant factors negatively affecting the conservation of underwater cultural heritage, the identification of remedial measures and the current state of underwater archaeology.[183] Various training events and workshops on the protection of the underwater cultural heritage have been held in 2011, with the objective of creating awareness of the existence of this heritage and of the urgent need to create legal frameworks for its protection; facilitating the professional development of specialists in the field of underwater cultural heritage; and disseminating information.[184]

IX. Conservation and management of marine living resources

A. Marine fishery resources

125. The General Assembly, in its resolution 65/38, recognized the significant contribution of sustainable fisheries to food security, poverty alleviation and employment creation, as well as their overall social and economic benefits worldwide.[185] Employment in fisheries and aquaculture has grown substantially

[182] See http://unesdoc.unesco.org/images/0019/001926/192674E.pdf.

[183] See http://unesdoc.unesco.org/images/0019/001923/192355E.pdf.

[184] Examples include the Caribbean Meeting on the Protection of the Underwater Cultural Heritage, held in Kingston (see www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/dynamic-content-single-view/news/caribbean_meeting_on_the_protection_of_the_underwater_cultural_heritage_on_10th_june_in_kingston); the Training Workshop on the Convention on the Protection of the Underwater Cultural Heritage, held in Tehran (see www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/dynamic-content-single-view/news/training_workshop_on_the_convention_on_the_protection_of_underwater_cultural_heritage_in_teheran_iran/); the International Training Programme for Underwater Archaeologists, held in Cartagena, Spain (see www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/dynamic-content-single-view/news/international_training_programme_for_underwater_archaeologists_from_15_september_to_30_october_2011_in_cartagena_spain/); and the Asia-Pacific Regional Conference on Underwater Cultural Heritage, held in Manila (see www.unesco.org/new/en/culture/themes/underwater-cultural-heritage/dynamic-content-single-view/news/save_the_dates_8_12_november_2011/).

[185] See resolution 65/38, preamble.

over the past three decades. It was estimated that nearly 45 million people were directly engaged in capture fisheries or aquaculture in 2008 and that at least 12 per cent of those individuals were women. This number represents a 167 per cent increase compared with the 16.7 million people who were thus engaged in 1980.[186]

126. Although capture fisheries continue to provide the greater number of jobs, the share of employment in these fisheries has stagnated or decreased as a result of the decline in fish stocks caused by overfishing and habitat destruction. Increased opportunities are being provided by the aquaculture industry, and one estimate indicates that fish farmers accounted for one quarter of the total number of workers in the fisheries sector in 2008, or nearly 11 million.[187]

1. Review by the General Assembly of actions taken by States and regional fisheries management organizations and arrangements in response to resolutions 61/105 and 64/72

127. At its sixty-sixth session, the General Assembly is to conduct a review of the actions taken by States and regional fisheries management organizations and arrangements in response to relevant paragraphs of resolutions 61/105 and 64/72, to address the impacts of bottom fishing on vulnerable marine ecosystems and the long-term sustainability of deep-sea fish stocks. Notably, pursuant to paragraph 129 of resolution 64/72, the review will be conducted with a view to ensuring the effective implementation of the measures set out in the resolutions and to make further recommendations where necessary. The review will also take into account the discussions during a workshop to be held at United Nations Headquarters on 15 and 16 September 2011.

128. In order to assist the General Assembly in its review, the Secretary-General has prepared a report on the actions taken by States and regional fisheries management organizations and arrangements in response to resolutions 61/105 and 64/72.[188]

2. FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas

129. FAO has initiated a programme on deep-sea fisheries in the high seas with the aim of assisting States, institutions, the fishing industry and regional fisheries management organizations and arrangements in the implementation of the 2008 International Guidelines for the Management of Deep-Sea Fisheries in the High Seas.[189] One component of the programme, which is aimed at establishing a knowledge baseline in relation to these fisheries and related ecosystems,[190] involves the development of a database of high-seas vulnerable marine ecosystems and related information that will allow for the improved dissemination of information on these ecosystems. Several organizations and bodies are currently active in the

[186] Food and Agriculture Organization of the United Nations, *The State of World Fisheries and Aquaculture 2010*.

[187] Ibid.

[188] A/66/307; see also A/64/305 and A/61/154.

[189] For further information, see www.fao.org/docrep/011/i0816t/i0816t00.htm and www.fao.org/fishery/topic/4440/en.

[190] FAO contribution; see also www.fao.org/fishery/topic/4450/158143/en.

development of ecological criteria for the identification of marine areas that require protection.[191]

130. At its twenty-ninth session, held in January-February 2011, the Committee on Fisheries of FAO recommended that FAO collaborate with relevant international organizations, such as the secretariat of the Convention on Biological Diversity and UNEP, to build and share information, create synergies and provide coherent guidance.[192]

3. FAO International Guidelines for By-Catch Management and Reduction of Discards

131. The international community has expressed growing concerns about the impacts of by-catch and discards on the fishery resources and food security.[193] Levels of fishing mortality as a result of by-catch and discards threaten the long-term sustainability of many fisheries and the maintenance of biodiversity in many areas, resulting in increased food insecurity and adversely affecting the livelihoods of millions of fishers and fishworkers dependent on fish resources.[194]

132. Following a request made at the twenty-eighth session of the FAO Committee on Fisheries, in March 2009,[195] a technical consultation[196] on the development of international guidelines for by-catch management and the reduction of discards was held in Rome in December 2010. At the twenty-ninth session of the Committee, in February 2011, the International Guidelines for By-Catch Management and Reduction of Discards were endorsed and it was recommended that FAO provide support in capacity-building and in the implementation of the Guidelines, and that it ensure that the guidelines did not become barriers to international trade.[197]

133. The guidelines are intended to assist States and regional fisheries management organizations and arrangements in the management of by-catch and the reduction of discards in conformity with the FAO Code of Conduct for Responsible Fisheries.[198] They are aimed at promoting responsible fisheries by minimizing the capture and mortality of species and sizes that will not be used; providing guidance on measures that contribute to more effective management of by-catch and reduction of discards; and improving reporting and the accounting of all components of the catch of which by-catch and discards are subsets.[199]

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[191] A/66/70, para. 161; see also General Assembly resolution 65/37 A, para. 178.

[192] See CL 141/3 (C 2011/20).

[193] See, for example, General Assembly resolution 65/38, preamble.

[194] See report of the Technical Consultation to Develop International Guidelines for By-Catch Management and Reduction of Discards, FAO Fisheries and Aquaculture Report No. 957 (Rome, FAO, 2010).

[195] See report of the Committee on Fisheries on its twenty-eighth session, Rome, 2-6 March 2009, FAO Fisheries and Aquaculture Report No. 902 (FIEL/R902 (En)).

[196] See report of the Technical Consultation to Develop International Guidelines for By-Catch Management and Reduction of Discards, FAO Fisheries and Aquaculture Report No. 957 (Rome, FAO, 2010).

[197] FAO contribution; see also CL 141/3 (C 2011/20).

[198] See report of the Technical Consultation to Develop International Guidelines for By-Catch Management and Reduction of Discards, FAO Fisheries and Aquaculture Report No. 957 (Rome, FAO, 2010).

[199] Ibid.

4. Global record of fishing vessels

134. In its resolution 65/38, the General Assembly encouraged FAO, in cooperation with States, regional economic integration organizations, IMO and regional fisheries management organizations and arrangements, to expedite efforts to develop and manage a comprehensive global record of fishing vessels, including with a unique vessel identifier system.[200] The request followed a technical consultation that had been held in Rome in November 2010 to identify a structure and strategy for the development and implementation of the global record of fishing vessels, refrigerated transport vessels and supply vessels. The technical consultation saw the adoption of a series of recommendations on the proposed structure and strategy for the development and implementation of the global record.[201]

135. At its twenty-ninth session, the Committee on Fisheries noted the recommendations of the technical consultations and recognized the need for further work to refine some of the terms used in the recommendations for establishing the global record.[202] The Committee recognized that the global record should be developed as a voluntary initiative with a phased approach to implementation, and in a cost-effective manner, taking advantage of existing systems and technologies.[203]

5. Cooperation among regional fisheries management organizations

136. The third joint meeting of tuna regional fisheries management organizations was held in La Jolla, United States, in July 2011. At the meeting, participants focused on implementing the process of coordination among the five tuna regional fisheries management organizations[204] on areas of mutual concern, and on increasing harmonization and communication among the relevant regional fisheries management organizations, while decreasing duplication of efforts. A steering committee comprising the Chairs and Vice-Chairs of each of the five organizations was established, with the mandate to review and report to the five regional fisheries management organizations, on a regular basis, on the implementation of the recommendations agreed during the Kobe process.[205]

137. The Inter-American Tropical Tuna Commission reported that it was cooperating with the Western and Central Pacific Fisheries Commission to study the condition of bigeye tuna in the Pacific.[206]

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[200] Resolution 65/38, para. 61.

[201] See report of the Technical Consultation to Identify a Structure and Strategy for the Development and Implementation of the Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels, FAO Fisheries and Aquaculture Report No. 956 (Rome, FAO, 2010).

[202] Report of the Committee on Fisheries on its twenty-ninth session, 31 January-4 February 2011 (CL 141/3 (C 2011/20)).

[203] Ibid.

[204] The five tuna regional fisheries management organizations are: the Commission for the Conservation of Southern Bluefin Tuna; the Inter-American Tropical Tuna Commission; the International Commission for the Conservation of Atlantic Tunas; the Indian Ocean Tuna Commission; and the Western and Central Pacific Fisheries Commission.

[205] Recommendations of the third joint meeting of tuna regional fisheries management organizations and arrangements, held in La Jolla, United States, from 11 to 15 July 2011 (K3-REC-A).

[206] Contribution of the Inter-American Tropical Tuna Commission.

6. Assessing the performance of flag States

138. At its twenty-ninth session, the Committee on Fisheries recognized that compliance by flag States with their duties under international law was an essential factor in achieving sustainable fisheries and combating illegal, unreported and unregulated fishing.[207]

139. The FAO technical consultation on flag State performance was held in Rome in May 2011. The purpose of the technical consultation was the drafting of criteria for flag State performance, including the assessment of flag State performance and possible actions in accordance with international law to encourage compliance, and assistance to developing countries in improving their performance as flag States.[208] A second technical consultation is expected to be held in 2012.[209]

7. Small-scale fisheries

140. The importance of small-scale fisheries for poverty alleviation and food security has increasingly been recognized.[210] However, the situation of many small-scale fishing communities remains precarious, and the potential of the sector has not been fully realized.[211]

141. Drawing on the outcomes of regional workshops on securing small-scale fisheries,[212] the Committee on Fisheries approved, at its twenty-ninth session, the development of a new international instrument on small-scale fisheries that would draw on relevant existing instruments, complementing the Code of Conduct for Responsible Fisheries, with the aim of enhancing the contribution of small-scale fisheries to poverty alleviation and food security. The Committee also agreed that the instrument should be voluntary in nature, address both inland and marine fisheries, and focus on the needs of developing countries.[213]

B. Whales and other cetaceans

142. The International Whaling Commission, at its 2011 session, reviewed the status of a number of whale stocks, focusing in particular on the endangered Western North Pacific gray whale owing to great concern about the possible threats to this population from oil and gas activities. In the context of the revised management scheme, the Commission considered progress in the work relating to

[207] See report of the Committee on Fisheries on its twenty-ninth session, 31 January-4 February 2011 (CL 141/3 (C 2011/20)).

[208] See report of the Chairperson on the first session of the Technical Consultation on Flag State Performance, Rome, 2-6 May 2011, available from ftp://ftp.fao.org/FI/DOCUMENT/tc-fsp/2011/Chairperson_report.pdf.

[209] Ibid.; see also draft criteria for flag State performance, Chairperson's draft text, available from ftp://ftp.fao.org/FI/DOCUMENT/tc-fsp/2011/Chairperson_draft_text_6May2011.pdf.

[210] See, for example, General Assembly resolution 65/38, paras. 18, 74, 131 and 132.

[211] See "Good practices in the governance of small-scale fisheries: sharing of experience and lessons learned in responsible fisheries for social and economic development" (COFI/2011/8).

[212] See, for example, report of the Asia-Pacific Fishery Commission of FAO Regional Consultative Workshop entitled "Securing sustainable small-scale fisheries: bringing together responsible fisheries and social development", Bangkok, 6-8 October 2010 (FAO Regional Office for Asia and the Pacific, RAP Publication 2010/19).

[213] See report of the Committee on Fisheries on its twenty-ninth session, 31 January-4 February 2011 (CL 141/3 (C 2011/20)).

the reviews for the Western North Pacific common minke whales, Western North Pacific Bryde's whales, North Atlantic fin whales and North Atlantic common minke whales. In relation to aboriginal subsistence whaling, catch limits for a number of whale populations taken by Saint Vincent and the Grenadines, Greenland and the native people of Alaska, Chukotka and Washington state remained unchanged. The Commission established an ad hoc working group on aboriginal subsistence whaling to address unresolved issues.[214]

143. The Commission also considered reports by its working group on whale killing methods and associated animal welfare issues. In relation to welfare issues associated with the entanglement of large whales, the Commission agreed, inter alia, to convene a second workshop on this issue,[215] undertake capacity-building, establish a standing group of experts to advise member countries upon request, and assist member countries in research and promote cooperative research.[214]

144. The Commission adopted a resolution on safety at sea, in which, inter alia, any actions posing a risk to human life and property were condemned; the primacy of IMO on matters relating to safety at sea was recognized; and cooperation in accordance with the United Nations Convention on the Law of the Sea and other relevant instruments in the investigation of incidents at sea, including those that might pose a risk to life or the environment, was urged.

145. The Commission also discussed a proposal to establish a South Atlantic Whale Sanctuary and, in the light of divergent views still being held, agreed to continue discussing the proposal at its next session, in 2012. In the context of its discussions on the future of the Commission, continued dialogue was encouraged.[214]

X. Marine biological diversity

146. As noted in recent reports,[216] in spite of its vital importance, marine biodiversity continues to be under multiple pressures. At the high-level meeting of the General Assembly on biodiversity, held on 22 September 2011 as a contribution to the International Year of Biodiversity, concern continued to be expressed, in particular, about the impacts on marine biodiversity of ocean acidification, invasive alien species, overexploitation of resources, pollution and climate change, including coral bleaching. The achievement of the commitments that the international community set for itself at the United Nations Conference on Environment and Development in 1992 and the World Summit on Sustainable Development in 2002 on some of those issues is lagging. It is expected that the United Nations Decade on Biodiversity (2011-2020), declared by the General Assembly at its sixty-fifth session,[217] will provide impetus for further efforts and action towards the conservation and sustainable use of marine biodiversity.[218] The United Nations Conference on Sustainable Development, to be held in Rio de Janeiro in 2012, will provide major opportunities in that regard.

[214] See International Whaling Commission press releases, available from http://iwcoffice.org/meetings/meeting2011.htm.

[215] The report of the first workshop, held in April 2010, is available as document IWC/62/15.

[216] A/66/70 and A/66/70/Add.1.

[217] See resolution 65/161.

[218] A list of activities and initiatives undertaken as part of the Decade is available from www.cbd.int/2011-2020/.

A. Measures to address activities and pressures on marine biological diversity

147. *Ad Hoc Open-ended Informal Working Group.* The Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction held its fourth meeting from 31 May to 3 June 2011. The Working Group formulated recommendations for consideration by the General Assembly at its sixty-sixth session. In addition, a summary of discussions on key issues, ideas and proposals raised during the deliberations under the various agenda items was prepared by the Co-Chairs.[219]

148. *Convention on Biological Diversity.* At its tenth meeting, held in October 2010, the Conference of the Parties to the Convention on Biological Diversity conducted an in-depth review of progress made in the implementation of the elaborated programme of work on marine and coastal biological diversity,[220] endorsing guidance for enhanced implementation, as contained in decision X/29 on marine and coastal biodiversity.[221]

149. The Conference of the Parties also established a process to facilitate the description of ecologically or biologically significant marine areas. The Executive Secretary of the Convention was requested to facilitate the development of voluntary guidelines for the consideration of biodiversity in environmental impact assessments and strategic environmental assessments in marine and coastal areas. The Conference of the Parties also called for a number of measures to address the impacts of unsustainable fishing, such as destructive fishing practices, overfishing and illegal, unreported and unregulated fishing, on marine and coastal biodiversity, as well as the impacts of ocean fertilization, ocean acidification and other human activities.[222]

150. Furthermore, the Conference of the Parties adopted the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets (decision X/2), some of which relate to marine biodiversity.[223] Other outcomes of relevance to marine biodiversity include the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (the Nagoya Protocol),[224] new and emerging issues,[225] protected areas,[226] biodiversity and climate change[227] and invasive alien species.[228]

151. The secretariat of the Convention on Biological Diversity is currently collaborating with IOC and other international organizations and scientific groups to

[219] See A/66/119.
[220] See decision VII/5, annex I.
[221] A/66/70/Add.1, paras. 102 and 103.
[222] See decision X/29.
[223] A/66/70/Add.1, para. 103.
[224] See decision X/1 on access to genetic resources and the fair and equitable sharing of benefits arising from their utilization; see also A/66/70, para. 68.
[225] Decision X/13.
[226] Decision X/31.
[227] Decision X/33.
[228] Decision X/38.

develop a series of joint expert review processes to monitor and assess the impacts of ocean acidification on marine and coastal biodiversity.[229]

152. *Intergovernmental science-policy platform on biodiversity and ecosystem services*. Pursuant to the request made by the General Assembly in its resolution 65/162,[230] UNEP is working with UNESCO, FAO, UNDP and other organizations to convene a plenary meeting on the intergovernmental science-policy platform on biodiversity and ecosystem services, in the form of an open-ended intergovernmental meeting. At the first session of the meeting, to be held in Nairobi in October 2011, the organizations will consider, inter alia, the draft principles and procedures governing the work of the intergovernmental science-policy platform on biodiversity and ecosystem services, its governance structure and the initial elements of a work programme. At the second session, to be held in early 2012, the organizations are expected to determine the modalities and institutional arrangements and to consider a detailed draft work programme.[231] In anticipation of the sessions, a number of expert and stakeholder workshops and meetings were held in 2011.[232]

153. *Other activities*. The United Nations University Institute of Advanced Studies is compiling case studies on the role of traditional knowledge in marine and coastal resources management, including through a pan-Pacific workshop on the topic at the International Marine Conservation Congress held in May 2011.[233] In addition, it has published a report on traditional marine management areas of the Pacific in the context of national and international law and policy.[234]

B. Measures for specific ecosystems and species

154. *Corals*. Pursuant to paragraph 3 of resolution 65/150, I have prepared a report, entitled "Protection of coral reefs for sustainable livelihoods and development".[235] At its twenty-fifth general meeting, held in November 2010, the International Coral Reef Initiative adopted a recommendation for the Pacific region that encouraged marine research to increase knowledge, inform spatial planning and enhance management decision-making, and encouraged increased information-sharing on climate change and its impacts on coral reefs in the Pacific region. Recognizing that the lionfish invasion in the Caribbean region was a mounting threat to the biodiversity and ecological integrity of the region's coral reef ecosystems, the Initiative adopted terms of reference for an Ad Hoc Committee on Caribbean Regional Response to Lionfish Invasion. Amended terms of reference for the Ad Hoc Committee on Coral Reef-Associated Fisheries were also adopted at the meeting. In addition, international tools for the sustainable management of coral reefs and the management of accidental releases of pollutants were considered.[236]

[229] Contribution of the secretariat of the Convention on Biological Diversity.
[230] A/66/70/Add.1, paras. 226 and 227.
[231] See http://ipbes.net/.
[232] The list and the outcome of these events are available from http://ipbes.net/related-events.html.
[233] UNU contribution; see www.conbio.org/IMCC2011/.
[234] See www.unutki.org/news.php?news_id=103&doc_id=7.
[235] A/66/298.
[236] See www.icriforum.org/ICRIGM25.

155. *Wetlands*. A number of coastal areas around the world were designated as Wetlands of International Importance and added to the Ramsar List of Wetlands of International Importance, illustrating the significance of the benefits that those sites provide to people and the coastal environment. These include the Kumana Wetland Cluster (Sri Lanka); Complejo Jaltepeque (El Salvador); Reisautløpet, Røstøyan, Rott-Hästein-Kjør, Sklinna, Bear Island (Bjørnøya) and Sørkapp (Norway); and Ile de Rachgoun (Algeria).[237]

156. *Deep sea*. The Census of Marine Life, which was completed in October 2010,[238] helped to advance our knowledge of the biodiversity of vents and seeps, seamounts and abyssal plains.[239] However, our knowledge of life in the deep-sea environment is limited, and no complete catalogues of the species or habitats present in these environments exist.[240] In that regard, IOC implemented the pilot project entitled "Biodiversity and distribution of megafaunal assemblages in the abyssal nodule province of the eastern equatorial Pacific".[241] It also organized an international expert meeting on deep-water biodiversity in the South Atlantic, the objectives of which included the identification of research and knowledge gaps in South Atlantic processes, biodiversity and resources, and the promotion of a proposal to enhance networking activities and support continuing sampling in the deep South Atlantic ocean.[242]

157. In the context of its work on the protection and preservation of the marine environment of the Area from mining activities, the Authority published a technical study on the environmental management of deep-sea chemosynthetic ecosystems, which presents design principles for the comprehensive management of chemosynthetic environments in a marine spatial planning context.[243] It also published technical studies on the fauna of cobalt-rich ferromanganese crust seamounts[244] and a marine benthic nematode molecular protocol handbook.[245] The Legal and Technical Commission of the International Seabed Authority considered a draft environmental management plan for the Clarion-Clipperton Fracture Zone, which was adopted by the Council at the seventeenth session of the Authority. The guiding principles of the plan include the concept of the common heritage of mankind; a precautionary approach; the protection and preservation of the marine environment; prior environmental impact assessment; and the conservation and sustainable use of biodiversity. Among other things, the plan is aimed at

[237] The description of each site is available from www.ramsar.org/cda/en/ramsar-pubs-annolist-annotated-ramsar-23851/main/ramsar/1-30-168%5E23851_4000_0__.

[238] A/65/69/Add.2, para. 208; see also A/66/70, paras. 18, 19, 25 and 216.

[239] See Beth N. Orcutt and others, "Colonization of subsurface microbial observatories deployed in young ocean crust" *ISME Journal*, No. 5 (April 2011), p. 692.

[240] IOC contribution.

[241] See Biodiversity and Distribution of Faunal Assemblages, vol. 3, "Options for the management and conservation of the nodule ecosystem in Clarion-Clipperton Fracture Zone", IOC Technical Series No. 69 (2010).

[242] IOC contribution.

[243] "Environmental management of deep-sea chemosynthetic ecosystems: justification of and considerations for a spatially based approach", International Seabed Authority Technical Study No. 9 (Kingston, 2011).

[244] "Fauna of cobalt-rich ferromanganese crust seamounts", International Seabed Authority Technical Study No. 8 (Kingston, 2011).

[245] "Marine benthic nematode molecular protocol handbook (nematode barcoding)", International Seabed Authority Technical Study No. 7 (Kingston, 2011).

contributing to the achievement of the management goals and targets set forth in the Plan of Implementation of the World Summit on Sustainable Development.

158. *Cetaceans*. As migratory species, cetaceans are particularly vulnerable to the cumulative impacts of a number of human activities. In the context of the Convention on the Conservation of Migratory Species of Wild Animals, an analysis of gaps in addressing key threats to cetaceans is being developed, on the basis of which a draft programme of work on cetaceans will be submitted to the Conference of the Parties at its tenth meeting, in Bergen, Norway, in November 2011.[246]

159. A number of working groups continued to support the implementation of the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas, including the Jastarnia Group to carry forward the Recovery Plan for Baltic Harbour Porpoises;[247] the North Sea Working Group to facilitate the implementation of the Conservation Plan for Harbour Porpoises in the North Sea; the By-catch Working Group; and the Noise Working Group.[248]

160. At their fourth meeting, the parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and neighbouring Atlantic Area adopted a work programme for 2011-2013, which identified the survey initiative and by-catch as high-priority issues. With regard to surveying, the parties adopted a resolution on comprehensive cetacean population estimates and distribution. A resolution on interactions between cetaceans and fishing activities encouraged parties to improve reporting and to make every effort to reduce cetacean by-catch levels and/or incidences of depredation, in cooperation with affected fishing communities. The resolution also included technical specifications and conditions of use of acoustic deterrent devices. In addition, the parties adopted resolutions on, inter alia, ship strikes on large whales in the Mediterranean Sea; conservation of the Mediterranean short-beaked common dolphin; climate change; and marine protected areas of importance for cetacean conservation. A number of guidelines were also adopted, including with regard to commercial cetacean-watching; a coordinated cetacean stranding response; the impact of anthropogenic noise on cetaceans; and the granting of exceptions to article II, paragraph 1, of the Agreement for the purpose of non-lethal in situ research.[249]

161. *Other migratory species*. A number of threats to marine migratory species and measures to address them continue to be addressed in the context of the Convention on the Conservation of Migratory Species of Wild Animals. At the tenth meeting of the Conference of the Parties to the Convention, in November 2011, the parties are expected to consider, in particular, ecological networks, marine debris, by-catch, a programme of work for cetaceans, and climate change.[250] An expert workshop convened in June 2011 under the auspices of the secretariat of the Convention considered relevant

[246] Contribution of the secretariat of the Convention on the Conservation of Migratory Species of Wild Animals.

[247] See report of the Jastarnia Group, available from www.ascobans.org/other_documents_publications.html.

[248] See reports of the 17th and 18th meetings of the Advisory Committee of the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas, available from www.ascobans.org/ac_documents.html.

[249] See www.accobams.org/index.php?option=com_content&view=article&id=1098:resolutions-adopted-by-the-meeting-of-the-parties&catid=51:meetings-of-the-parties&Itemid=65.

[250] Contribution of the secretariat of the Convention on the Conservation of Migratory Species of Wild Animals; see also www.cms.int/bodies/COP/cop10/docs_and_inf_docs/meeting_docs.htm.

ecological, genetic, climatic and legal aspects to permit the formulation of a road map for action on migratory species and climate change.[251]

162. At their first official meeting, held in October 2010, the States signatory to the Memorandum of Understanding on the Conservation and Management of Dugongs (Dugong dugon) and their Habitats throughout their Range considered, inter alia, the global status of the dugong and endorsed a standardized catch/incidental catch survey tool and recommendations on management tools, including early implementation of pilot projects.[252]

163. *Convention on International Trade in Endangered Species of Wild Fauna and Flora*. The Working Group on Introduction from the Sea, established under the Convention on International Trade in Endangered Species of Wild Fauna and Flora, developed, during the intersessional period, a discussion document and a draft revised resolution on introduction from the sea for consideration at the sixty-first meeting of the Standing Committee.[253] The discussion document outlines efforts undertaken by parties since 2000 to harmonize their interpretation and implementation of the Convention's provisions on introduction from the sea, and a possible way forward on this issue.

164. At its meeting in July 2011, the Animals Committee of the Convention considered reviews of significant trade in specimens of Appendix II species of the Indo-Pacific bottlenose dolphin, the beluga and the Great Seahorse. The Committee recommended four seahorse species as being of priority concern for the review of significant trade. In relation to sturgeon, the Committee made a number of recommendations relating to stock assessment activities, including regional cooperation, training and capacity-building. It urged parties involved in the caviar trade to reinforce their control of that trade, owing to serious concern about the legality of sturgeon products on the market. The Committee also adopted a recommendation on sharks requesting parties to the Convention to submit a list of shark species that they believe to require additional action to enhance their conservation and management; soliciting input from parties based on the annexed questionnaire on domestic regulations on fishing, retention and landing of sharks and on imports and exports of shark parts; and requesting the secretariat of the Convention to collaborate with the secretariats of FAO and the Convention on the Conservation of Migratory Species of Wild Animals. Regarding sea cucumbers, the Committee established an intersessional working group to evaluate the outcomes of an FAO workshop on the sustainable use and management of sea cucumber fisheries conducted in 2007 and to recommend follow-up actions to the sixteenth meeting of the Conference of the Parties, to be held in 2013.[254]

165. The secretariat of the Convention indicated that emphasis had been placed on strengthening the ability of national Convention authorities to implement and enforce the Convention and of customs officers to identify trade in listed specimens.

[251] See www.cms.int/news/PRESS/pr/PR2011/06_jun/pr_160611_tourduvalat.htm.

[252] See report of the first official meeting of the States signatory to the Memorandum of Understanding on the Conservation and Management of Dugongs (Dugong dugon) and their Habitats throughout their Range (DMSS.1/Report), available from www.cms.int/species/dugong/meeting_of_sigs1.htm.

[253] See SC.61Doc.32, available from www.cites.org/eng/com/sc/61/index.shtml.

[254] See executive summaries of the twenty-fifth meeting of the Animals Committee, available from www.cites.org/eng/com/AC/25/sum.

In addition, capacity-building workshops addressed specific marine species listed in the appendices to the Convention, such as queen conch, giant clams, corals, humphead wrasse and seahorses. The secretariat of the Convention is currently reviewing a draft updated capacity-building strategy.[255]

C. Marine genetic resources

166. As the policy discussions are ongoing in a number of forums, research undertaken by a number of public, private and public-private initiatives continues to discover, identify and uncover the roles played by the smallest organisms in marine ecosystems and the potential of marine genetic resources for, inter alia, food security, agriculture, health, industrial applications, environmental remediation and biofuel production.[256] In particular, research is increasingly being carried out on the potential of marine cyanobacteria and algae for renewable hydrogen production.[257]

167. The United Nations University Institute of Advanced Studies, which continues to document the use of marine genetic resources from both within and beyond areas of national jurisdiction,[258] has documented cases in which companies have sourced genetic resources from areas beyond national jurisdiction. Most of these cases relate to hydrothermal vent micro-organisms, and one patent was identified for a product based on a fungus from deep-sea sediments.[259] The filing of patents associated with marine organisms is increasing, with diverse taxonomic origin (e.g., fish, krill, sponges, sea slugs, algae and microbes) of the patented inventions. Many patents are related to the production of enzymes and result from technological advances in ocean exploration and molecular biology.

168. Differences in capacity remain, and 10 States account for some 90 per cent of the patents related to marine genetic resources. In addition, the informational basis related to marine genetic resources is still incomplete, with further sharing of research and information being needed on, inter alia, the geographic origin of the material and the number of patented inventions resulting in marketed products.[260]

[255] Contribution of the secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

[256] For example, in addition to the research carried out in the context of the Census of Marine Life, the 2009-2010 *Sorcerer II* Expedition of the J. Craig Venter Institute came to an end on 30 December 2010, having collected 213 samples from 13 countries, a majority of which have been sequenced or are scheduled to be sequenced in 2011; see www.jcvi.org/cms/research/projects/gos/overview/ and www.jcvi.org/cms/research/projects/microgenome/overview/.

[257] See "Hydrogen from water in a novel recombinant cyanobacterial system", available from www.jcvi.org/cms/research/projects/hydrogen-from-water-in-a-novel-recombinant-cyanobacterial-system/overview/; see also "High costs seen hampering use of algae as biofuel", Reuters news, 16 June 2011, and "Algae company Solazyme makes strong Nasdaq debut", Reuters news, 1 June 2011, available from www.reuters.com/gz.

[258] A/66/70, para. 63.

[259] United Nations University contribution.

[260] M. Vierros and S. Arico, "Trends in bioprospecting for and application of marine genetic resources", presentation at the side event on "Marine genetic resources", organized by the United Nations University Institute of Advanced Studies and the United Nations Educational, Scientific and Cultural Organization, on the margins of the Ad Hoc Open-ended Informal Working Group, 3 June 2011.

169. From a policy and legal perspective, issues related to the relevant legal regime with respect to marine genetic resources in areas beyond national jurisdiction continued to be discussed at the fourth meeting of the Ad Hoc Open-ended Informal Working Group.

170. In the context of the Convention on Biological Diversity, my previous report provided information on the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity, adopted at the tenth meeting of the Conference of the Parties.[261] When in force,[262] the Protocol will apply to marine genetic resources falling within its scope.

171. The first meeting of the Open-ended Ad Hoc Intergovernmental Committee for the Protocol, established to undertake the preparations necessary for the first meeting of the parties to the Protocol, was held in June 2011. At the meeting, the Committee adopted recommendations on modalities for the operation of the access and benefit-sharing clearing house, measures to assist in capacity-building and development and the strengthening of human resources and institutional capacities, measures to raise awareness of the importance of genetic resources and associated traditional knowledge, and cooperative procedures and institutional mechanisms to promote compliance with the Protocol and to address cases of non-compliance.[263]

172. A series of capacity-building workshops on access and benefit-sharing are being jointly organized by the secretariat of the Convention on Biological Diversity and the secretariat of the International Treaty on Plant Genetic Resources for Food and Agriculture to support the early entry into force of the Protocol and identify capacity-building needs and priorities in its implementation.[264]

173. The Commission on Genetic Resources for Food and Agriculture, at its thirteenth regular session, held in Rome in July 2011, considered progress in the preparation of the report entitled "The state of the world's aquatic genetic resources". Discussions on whether the review should include aquatic genetic resources in marine areas beyond national jurisdiction were inconclusive. FAO was requested to continue its work in that regard by focusing initially on cultured aquatic species. The Commission also agreed on the need for a road map or work programme on climate change and genetic resources for food and agriculture, a draft of which would be considered at the next session of the Commission, and requested FAO to compile information on biodiversity hotspots for food and agriculture that were under particular threat.[265]

174. At its eighteenth and nineteenth sessions, the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore of

[261] A/66/70, para. 68.

[262] The Protocol will enter into force 90 days after the receipt of the fiftieth instrument of ratification; as at 15 August 2011, there were 41 signatories.

[263] See report of the first meeting of the Open-ended Ad Hoc Intergovernmental Committee for the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization (UNEP/CBD/ICNP/1/8).

[264] The first workshop was held in June 2011; the documents of the workshop are available from www.cbd.int/doc/?meeting=WCBABS-01.

[265] See report of the thirteenth regular session of the Commission on Genetic Resources for Food and Agriculture (CGRFA-13/11/Report) available from www.fao.org/nr/cgrfa/cgrfa-meetings/cgrfa-comm/thirteenth-reg/en/.

the World Intellectual Property Organization (WIPO) considered draft objectives and principles on intellectual property and genetic resources on the basis of a document prepared by the Third Intersessional Working Group.[266] The Committee also discussed options for future work on intellectual property and genetic resources, and a glossary on intellectual property and genetic resources. With regard to future work, the Committee recommended that the WIPO General Assembly, in September and October 2011, adopt a decision renewing its mandate to expedite its work on text-based negotiations with the objective of reaching agreement on a text(s) for an international legal instrument(s) for submission to the WIPO General Assembly in 2012.[267]

XI. Protection and preservation of the marine environment and sustainable development

A. Introduction

175. As noted at the High-level Plenary Meeting of the sixty-fifth session of the General Assembly on the Millennium Development Goals and the High-level Review Meeting on the Implementation of the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States, both of which were held in September 2010, safe, healthy and productive seas and oceans are critical to sustainable development.[268]

176. Yet, no marine areas are unaffected by human activities, and almost half of them are strongly affected by multiple drivers of change, reducing the resilience of marine ecosystems. The cumulative impacts of fishing, pollution and climate change are on the verge of causing substantial — even if poorly understood — mass extinctions of marine life, with consequent resource and security implications for human communities.[269] Natural events such as the earthquake and tsunami in Japan on 11 March 2011, which resulted in the release of debris into the marine environment and its contamination by hazardous substances following the accident at the Fukushima Daiichi nuclear power plant,[270] also take their toll on the marine environment. Ocean acidification, melting of the ice sheet, sea-level rise, coral bleaching events, changes in the distribution and abundance of marine species, spreading of harmful algal blooms, expansion of dead zones, marine debris, and stranding of cetaceans are but a few of the numerous symptoms warning us of the poor state of the oceans.

177. The current state of the oceans reminds us of the acute need to implement the provisions set out in part XII of the United Nations Convention on the Law of the Sea for the protection and preservation of the marine environment, and make full

[266] A/66/70, para. 70.

[267] See www.wipo.int/meetings/en/details.jsp?meeting_id=22208.

[268] Resolution 65/1, paras. 70 (m) and 77 (l); see also resolution 65/2, paras. 15-18 and 21.

[269] UNEP, *Global Synthesis: A Report from the Regional Seas Conventions and Action Plans for the Marine Biodiversity Assessment and Outlook Series* (2010); see also "International Earth System expert workshop on ocean stresses and impacts", June 2011, available from www.stateoftheocean.org/index.cfm.

[270] See "IAEA international fact-finding expert mission of the nuclear accident following the Great East Japan earthquake and tsunami: preliminary summary", 1 June 2011.

use of the mechanisms provided for therein, including those related to contingency plans and monitoring and environmental assessment. Some progress continues to be made towards increased cooperation and coordination among sectoral bodies for improved integrated management and ecosystem approaches, as outlined in this section, to address the range of challenges facing the marine environment and impeding the sustainable development of the oceans and their resources. New management tools, such as marine spatial planning, are increasingly understood and being put into practice.

178. The third observance by the United Nations of World Oceans Day, on 8 June 2011, and the twelfth meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (see section XIV.A) provided opportunities to highlight and discuss the environmental, social and economic pillars of sustainable development as they relate to the oceans.[271] Taking stock of achievements to date since the 1992 United Nations Conference on Environment and Development and the 2002 World Summit on Sustainable Development, the United Nations Conference on Sustainable Development, to be held in 2012 on the theme "A green economy in the context of sustainable development and poverty eradication", will provide an additional opportunity to refocus global efforts for the sustainable development of the oceans and their resources and to consider what further approaches and efforts might be required.

B. Ecosystem approaches and integrated management

179. The need for ocean management based on an ecosystem approach is widely recognized by the international community.[272]

180. At the fourth meeting of the Ad Hoc Open-ended Informal Working Group, the need to implement ecosystem approaches to the management of activities related to marine biodiversity beyond areas of national jurisdiction was further highlighted. Area-based management tools, including marine protected areas, were recalled among the available management options in that regard.

181. The need to take concrete steps to achieve an integrated and ecosystem-based approach to the management of human activities having an effect on marine ecosystems, and the application of an ecosystem-based approach to fisheries management, were highlighted at the twelfth meeting of the Informal Consultative Process. The environmental management plan for the Clarion-Clipperton Fracture Zone, adopted at the seventeenth session of the International Seabed Authority, includes the maintenance of regional biodiversity, ecosystem structure and

[271] See www.un.org/Depts/los/reference_files/worldoceansday.htm; see also the Beijing Declaration adopted at the Pacem in Maribus XXXIII Conference on Oceans, Climate Change and Sustainable Development: Challenges to Oceans and Coastal Cities, September 2010, available from http://193.191.134.30/ioi_hq/index.php?option=com_phocadownload&view=category&id=5:pim-conference&Itemid=60.

[272] A/65/69/Add.2, para. 223; see also General Assembly resolution 65/37 A, paras. 153-154; decisions V/6, VI/12, VII/11 and IX/7 of the Conference of the Parties to the Convention on Biological Diversity; and report of the Reykjavik Conference on Responsible Fisheries in the Marine Ecosystem (FAO Fisheries Report No. 658, Rome, 2002), appendix I.

ecosystem function, together with the application of integrated ecosystem-based management.[273]

182. UNEP has published an introductory guide on ecosystem-based management for marine and coastal areas.[274] The guide clarifies that the terms "ecosystem-based management" and "ecosystem approach" are used interchangeably to describe the same science-based process addressing the following core elements: recognizing connections within and across ecosystems; utilizing an ecosystem services perspective; addressing cumulative impacts; managing for multiple objectives; and embracing change, learning and adapting.

183. In the context of the Global Environment Facility medium-size project entitled "Development of the methodology and arrangements for the Global Environment Facility Transboundary Waters Assessment Programme", UNEP also finalized and published a methodology for large marine ecosystems and open oceans. The submission of the full project to the Facility was completed in March 2011.

184. At the regional level, the IOC Subcommission for the Western Pacific is carrying out a project aimed at promoting the application of remote sensing for integrated coastal area management.[275]

185. In relation to fisheries, the priorities of FAO for 2012-2013 include furthering the implementation of an ecosystem approach to fisheries management and aquaculture. With regard to an ecosystem approach to fisheries management, special emphasis has been placed on African coastal States. In particular, in the context of the Ecosystem approach to fisheries management-Nansen project entitled "Strengthening the knowledge base for and implementing an ecosystem approach to marine fisheries in developing countries", a workshop on progress in implementing an ecosystem approach to fisheries was held in Accra in March 2011.[276] In addition, Angola, Namibia and South Africa are working together, under the auspices of the Benguela Current Commission, on two Ecosystem approach to fisheries management-Nansen projects in the region.[277] A comprehensive toolbox for the implementation of an ecosystem approach to fisheries management is expected to be completed by FAO this year.[278]

186. In relation to the implementation of an ecosystem approach to aquaculture, FAO stressed that during the biennium 2012-2013, priority should be given to the implementation of the relevant provisions of the Code of Conduct for Responsible Fisheries, the recommendations contained in the 2010 Phuket Consensus[279] and the

[273] See ISBA/17/LTC/7 and ISBA/17/LTC/2; see also A/66/70, para. 117.

[274] *Taking Steps toward Marine and Coastal Ecosystem-Based Management: An Introductory Guide* (UNEP Regional Seas Reports and Studies No. 189, Nairobi, 2011).

[275] IOC contribution.

[276] See www.eaf-nansen.org.

[277] The two projects, entitled "Integrating the human dimension of an ecosystem approach to fisheries into fisheries management in the BCC region" and "Implementing a process which allows the review (auditing) and tracking of an ecosystem approach to fisheries management", started in July 2010; see www.eaf-nansen.org/nansen/topic/18209/en.

[278] FAO contribution; see also A/66/70, para. 119.

[279] Adopted at the Global Conference on Aquaculture, held in Phuket, Thailand, from 22 to 25 September 2010; see www.aqua-conference2010.org/.

recommendations of the Subcommittee on Aquaculture of the FAO Committee on Fisheries.[280]

187. At the regional level, the Regional Activity Centres of the Northwest Pacific Action Plan have compiled a regional overview on integrated coastal and river basin management. Further work on ecosystem evaluation, marine spatial planning and ecosystem-based management is expected to be carried out within the framework of integrated coastal and river basin management.[281] The Northwest Pacific Action Plan has also established a partnership with other regional projects, such as the Yellow Sea Large Marine Ecosystem Project.[282]

188. A workshop on the ecosystem approach was held in Heringsdorf, Germany, on 23 September 2011 in the context of the tenth ScanBalt Forum, "10 Years ScanBalt BioRegion: towards a balanced regional development and smart specialization in the Baltic Sea region".[283]

C. Degradation of the marine environment from land-based activities

189. The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities provides a non-binding framework and road map for addressing the approximately 80 per cent of marine pollution that comes from land-based sources at the global, regional and national levels. The third Intergovernmental Review Meeting of the Global Programme of Action will be held in January 2012.[284]

190. During the period under review, there was significant progress in the implementation of the Global Programme of Action at the regional level. For example, the Protocol concerning Pollution from Land-based Sources and Activities to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region entered into force in 2010. The Protocol on Integrated Coastal Zone Management in the Mediterranean to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean also achieved the six ratifications required for entry into force in 2010. In addition, the parties to the Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean (Nairobi Convention), as amended, adopted a similar protocol for the protection of the marine and coastal environment of the Western Indian Ocean from land-based sources and activities.[285]

191. Work is also continuing on the development of a global legally binding instrument to address a significant marine pollutant, namely, mercury. The third session of the intergovernmental negotiating committee tasked with preparing a global legally binding instrument on mercury was scheduled to be held in Nairobi in October and November 2011.[286]

[280] FAO contribution.
[281] UNEP contribution.
[282] See http://partnership.iwlearn.org/.
[283] See www.scanbaltforum2011.eu/hosting/bev/website_en.nsf/urlnames/scanbalt_programme.
[284] See www.gpa.unep.org/.
[285] See progress report on the implementation of decision SS.XI/7 on oceans (UNEP/GC.26/10), paras. 23-26.
[286] See www.unep.org/hazardoussubstances/Mercury/Negotiations/INC3/tabid/3469/Default.aspx.

192. In addition to its catastrophic human toll and economic consequences, the 11 March 2011 earthquake and tsunami off the coast of Japan, and the ensuing nuclear incident, resulted in the introduction of pollution from land-based sources into the marine environment. Studies have indicated that although radioactive material from the Fukushima nuclear power plant is likely to dissipate rapidly in the ocean, vigilance is recommended in order to monitor the possibility of bioaccumulation in marine living resources.[287] Concern has also been expressed regarding the large amount of marine debris resulting from the tsunami, which might be transported across the oceans by currents.[288]

D. Pollution from ships

1. Discharge of substances

193. *International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), annex I (oil).* Following a decision taken by the IMO Marine Environment Protection Committee in 2010, amendments to annex I to MARPOL 73/78 entered into force on 1 August 2011 to ban heavy fuel oil in the Antarctic. The amendments add a new chapter 9, on special requirements for the use or carriage of oils in the Antarctic area, and establish a ban on the use or carriage as cargo of heavy-grade oils in the Antarctic area, with exceptions for vessels engaged in securing the safety of ships or in a search and rescue operation.[289]

194. *MARPOL 73/78, annex IV (sewage).* At its sixty-second session, the Marine Environment Protection Committee adopted amendments to annex IV to MARPOL 73/78 to include the possibility of establishing Special Areas for the prevention of pollution by sewage from passenger ships and to designate the Baltic Sea as a Special Area under the annex. The amendments are expected to enter into force on 1 January 2013.[290]

195. *MARPOL 73/78, annex V (garbage).* At its sixty-second session, the Marine Environment Protection Committee adopted revised regulations for the prevention of pollution by garbage from ships. The amendments include a general prohibition on the discharge of garbage into the sea, except in accordance with regulations (e.g., food wastes and cargo residues), the addition of discharge requirements for animal carcasses, and the expansion of the requirements for placards and garbage management plans to fixed and floating platforms engaged in exploration and exploitation of the seabed. The amendments are expected to enter into force on 1 January 2013.[291]

[287] See www.iaea.org/newscenter/focus/fukushima/seafoodsafety0511.pdf; see also www.fas.org/sgp/crs/misc/R41751.pdf, www.radsafe.com/RadiochemicalAnalysis/FUrecommendation.pdf and www.irsn.fr/EN/news/Documents/IRSN_Fukushima-Accident_Impact-on-marine-environment-EN_20110404.pdf.

[288] See http://marinedebris.noaa.gov/info/japanfaqs.html; for general information about recent developments relating to marine debris, see A/66/70/Add.1, paras. 340-344.

[289] A/65/69/Add.2, para. 243.

[290] Report of the Marine Environment Protection Committee on its sixty-second session (MEPC 62/24), paras. 6.5-6.14 and 6.35-6.36.

[291] Ibid.

196. *Port reception facilities*. At its sixty-second session, the Marine Environment Protection Committee approved draft amendments to annexes I, II, IV, V and VI to MARPOL on regional arrangements for reception facilities. The amendments are expected to be adopted at the sixty-third session of the Committees in 2012.[292]

2. Air pollution from ships

197. Developments related to emissions control areas are included under section J, entitled "Area-based management tools".

E. Introduction of invasive alien species

198. The Marine Environment Protection Committee of IMO has reaffirmed the need for States to ratify the 2004 International Convention for the Control and Management of Ships' Ballast Water and Sediments (Ballast Water Convention) to achieve its entry into force at the earliest opportunity.[293] As at 1 August 2011, 28 States had deposited instruments of ratification, accession or approval with regard to the Convention, representing 25.43 per cent of the world's merchant fleet.[294]

199. *Ballast water management*. At its sixty-second session, in July 2011, the Marine Environment Protection Committee granted final approval to two ballast water management systems that make use of active substances, and basic approval to seven other such systems, following recommendations of the Ballast Water Working Group of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection.[295] As of July 2011, the Committee had granted basic approval to 34 ballast water management systems that make use of active substances, and final approval to 20 such systems.[296]

200. At its sixty-second session, the Marine Environment Protection Committee also adopted a procedure for approving other methods of ballast water management in accordance with regulation B-3.7 of the annex to the Ballast Water Convention. The procedure will open the door for new methods of managing ballast water, provided that the methods ensure at least the same level of protection as set out in the Convention, and that they are approved in principle by the Committee.[297]

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[292] Ibid.; see also A/65/69/Add.2, para. 246.

[293] See report of the Marine Environment Protection Committee on its sixty-second session (MEPC 62/24).

[294] See "Status of multilateral conventions and instruments in respect of which the IMO or its Secretary-General performs depositary or other functions", available from www.imo.org/About/Conventions/StatusOfConventions/Documents/Status%20-%202011.pdf. The Ballast Water Convention will enter into force 12 months after the date on which not fewer than 30 States, the combined merchant fleets of which constitute not less than 35 per cent of the gross tonnage of the world's merchant shipping, have either signed it without reservation as to ratification, acceptance or approval, or deposited the requisite instrument of ratification, acceptance, approval or accession in accordance with article 17.

[295] See report of the Marine Environment Protection Committee on its sixty-second session (MEPC 62/24).

[296] See www.imo.org/OurWork/Environment/BallastWaterManagement/Documents/table%20updated%20in%20October%202010.pdf. Also see IMO resolution MEPC.169(57).

[297] See report of the Marine Environment Protection Committee on its sixty-second session (MEPC 62/24).

201. In support of the work of the Marine Environment Protection Committee, IOC reported that the International Council for the Exploration of the Sea-IOC-IMO Working Group on Ballast and Other Ship Vectors had reviewed and recommended methodologies for monitoring compliance with regard to the treatment of ballast water. In cooperation with the IOC Intergovernmental Panel on Harmful Algal Blooms, the Working Group had developed advice on identifying species of phytoplankton that were more likely to have significant potential ecological or economic impact as invasive species. Advice had also been developed on whether there were particular characteristics of coastal waters that favoured the establishment of invasive phytoplankters.[298]

202. At the regional level, IOC reported that its Subcommission for the Western Pacific was carrying out research to review the regional status of marine non-indigenous species and to increase knowledge and awareness of the threats posed by marine invasive species to marine biodiversity in the region. The initiative would also provide a rapid assessment methodology to identify native, introduced and cryptogenic species present as fouling communities at identified sites of great probability of containing non-indigenous species.

203. *Biofouling of ships.* Minimizing biofouling will significantly reduce the risk of species transfer by vessels. A single fertile fouling organism has the potential to release into the water many thousands of eggs, spores or larvae with the capacity to found new populations of invasive species such as crabs, fish, sea stars, molluscs and plankton.[299]

204. Also at its sixty-second session, the Marine Environment Protection Committee adopted guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species. The guidelines constitute the first set of international recommendations to address biofouling of ships and the transfer of aquatic species through the adherence of sea life such as algae and molluscs to the hulls of ships.[300]

F. Ocean noise

205. There is a general recognition that human-generated underwater noise is a source of marine pollution and poses a threat to marine ecosystems and living resources.[301]

206. The General Assembly, in paragraph 107 of its resolution 61/222, requested the Division to compile studies that it received from States and intergovernmental organizations.[302] During the reporting period, no studies were received by the Division.

207. The 2011 report of the scientific committee of the International Whaling Commission noted that there was considerable evidence that anthropogenic noise

[298] IOC contribution.

[299] IMO press briefing entitled "IMO environment meeting completes packed agenda", 19 July 2011.

[300] See report of the Marine Environment Protection Committee on its sixty-second session (MEPC 62/24).

[301] General Assembly resolutions 60/30, para. 84; 61/222, para. 107; 62/215, para. 120; 63/111, para. 141; 64/71, para. 162; 65/37 A, para. 186; and 66/38, para. 127.

[302] See www.un.org/depts/los/general_assembly/noise/noise.htm.

could affect beaked whales. It recommended the continuation and expansion of studies of how anthropogenic noise, especially from naval sonar and seismic survey airguns, affected ziphiids.[303]

208. At its sixty-first session, the Marine Environment Protection Committee identified propeller noise as the main source of ship-generated underwater noise, and agreed that future research programmes should focus on propeller noise and the relationship between cavitations and the cause of underwater sonic energy.[304] This issue will be discussed further at the sixty-third session of the Committee, to be held in February 2012.[305]

209. At their fourth meeting, the parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and neighbouring Atlantic Area, in resolution 4.17,[306] recognized the ongoing work of the correspondence working group on ocean noise, and reaffirmed the need to fully address that issue, as well as the need for transparency in the disclosure of approved activities conducted within the Agreement area that were known or likely to have an acoustical impact on the cetacean environment.[307]

210. At its seventeenth meeting, the Advisory Committee of the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas established an open-ended intersessional working group on noise,[308] the terms of reference of which were revised at the eighteenth meeting of the Committee, in May 2011.[309]

211. The OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic, at its ministerial meeting held in September 2010, adopted a renewed strategy for the joint assessment and monitoring programme for the period 2010-2014. The programme highlights underwater noise as a new and emerging problem in the marine environment, and envisages the development of a monitoring programme on the issue.[310]

G. Waste management

1. Disposal of wastes

212. At the thirty-second Consultative Meeting of Contracting Parties to the London Convention and the fifth Meeting of Contracting Parties to the London

[303] See report of the scientific committee of the International Whaling Commission (IWC/63/Rep1).
[304] See report of the Marine Environment Protection Committee on its sixty-first session (MEPC 61/24).
[305] See report of the Marine Environment Protection Committee on its sixty-second session (MEPC 62/24).
[306] A/66/70, para. 112.
[307] See report of the fourth meeting of the contracting parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and neighbouring Atlantic Area.
[308] See report of the seventeenth meeting of the Advisory Committee of the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas.
[309] See report of the eighteenth meeting of the Advisory Committee of the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas.
[310] *Joint Assessment and Monitoring Programme 2010–2014 (OSPAR Agreement 2010-4)*, available from www.ospar.org/content/content.asp?menu=00170301000000_000000_000000.

Protocol, held in October 2010,[311] the contracting parties adopted a resolution regarding the Assessment Framework for Scientific Research Involving Ocean Fertilization.[312] The resolution provides criteria for the completion of an environmental assessment, including risk management and monitoring.[313] According to the resolution, "The Framework does not contain a threshold below which experiments would be exempt from its assessment provisions. It is intended that every experiment, regardless of size or scale, should be assessed in accordance with the entire Framework".[314]

213. At the meetings, it was agreed that further work should be undertaken intersessionally by the Working Group on Ocean Fertilization.[315] The Working Group was expected to report on the outcome of its third meeting to the next session of the governing bodies, in October 2011, with the aim of establishing global, transparent and effective control and regulatory mechanisms for ocean fertilization activities and other activities falling within the scope of the London Convention and Protocol.[316]

214. At their meeting, the contracting parties to the London Protocol adopted a workplan with timelines for conducting the review of the 2007 carbon dioxide sequestration guidelines in the light of the 2009 amendments to article 6 of the Protocol under resolution LP.3(4),[317] and instructed the London Protocol Scientific Group to begin this review, aiming at its completion in 2012.[318]

2. Transboundary movement of wastes

215. At the tenth Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, held in October 2011, the parties considered a draft strategic framework prepared by the secretariat of the Convention, taking into account comments from States parties and recommendations arising from a consultative meeting of experts held in 2011.[319]

216. The secretariat of the Basel Convention prepared a legal analysis of the application of the Convention to hazardous wastes and other wastes generated on board ships, which addressed the respective competencies of the Basel Convention and MARPOL 73/78 in respect of hazardous wastes and other wastes.[320] The legal analysis concluded that the provisions of the Basel Convention relating to environmentally sound management did not apply as long as the wastes covered by MARPOL 73/78 were on board the ship, and that the Basel Convention provisions related to transboundary movements did not apply until the wastes were unloaded from the ship and a transboundary movement subsequently took place. A resolution

[311] See report of the thirty-second consultative meeting and the fifth meeting of contracting parties (LC 32/15), available from www.ucl.ac.uk/cclp/pdf/Protocol15.pdf.

[312] Resolution LC-LP.2(2010), available from www.5.imo.org/SharePoint/blastDataHelper.asp/data_id%3D30641/AssessmentFramework-Annex6-LC-32-15.pdf.

[313] See http://epublishbyus.com/ebook/ebook?id=10013547#/6.

[314] See LC 32/15.

[315] See LP/CO2 3/7, annex 5; see also LC 32/4/1.

[316] See LC 32/15.

[317] See resolution LP3(4), available from www.ucl.ac.uk/cclp/pdf/ResolutionLP3-4.pdf.

[318] See LC 32/15, p. 4.

[319] See UNEP/CHW.10/3, annex.

[320] See http://basel.int/legalmatters/coop-IMO/legal-analysis2011-04-01.doc.

on this matter was expected to be adopted at the tenth Conference of the Parties to the Basel Convention.[321]

H. Ship breaking, dismantling, recycling and scrapping

217. In July 2011, at its sixty-second session, the Marine Environment Protection Committee adopted the 2011 guidelines for the development of the Ship Recycling Plan as well as updated guidelines for the development of the Inventory of Hazardous Materials, which are intended to assist in the implementation of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships. The Committee encouraged Governments to ratify the Convention, which, as at 1 August 2011, had been signed, subject to ratification or acceptance, by five countries,[322] and to review the programme of technical assistance aimed at supporting its early implementation.[323]

218. IMO has clarified that parties must ensure that their ship recycling facilities comply with the Convention by providing plans that specify the method used to recycle each ship based on its particulars and inventory.[324]

219. At the seventh session of the Open-ended Working Group of the Basel Convention, held in May 2010, parties considered the application of the Convention to ship recycling. These discussions were expected to continue at the tenth Meeting of the Conference of the Parties to the Convention, in October 2011.[325] The secretariat of the Basel Convention will conduct two projects in support of the work under the Convention on ship dismantling. A case study will be produced on the development of compliant facilities for ship recycling, specifying operational, procedural and infrastructural developments to achieve compliance with both the Basel Convention and the Hong Kong Convention, and another study, expected in 2012, will identify cost-effective alternatives to the beaching methods of ship recycling.[326]

I. Liability and compensation

220. The current international legal regime on liability and compensation for damage from pollution from ships and from the carriage of hazardous and noxious substances, hazardous wastes and nuclear material by sea is based on a number of

[321] See UNEP/CHW.10/17.

[322] France, 19 November 2009; Italy, 2 August 2010; Netherlands, 21 April 2010; Saint Kitts and Nevis, 27 August 2010; and Turkey, 26 August 2010; see www.imo.org/About/Conventions/StatusOfConventions/Pages/Default.aspx.

[323] See report of the Marine Environment Protection Committee on its sixty-second session (MEPC 62/24).

[324] See 2011 guidelines for the development of the ship recycling plan (MEPC 62/WP.9), annex 2; see also report of the Marine Environment Protection Committee on its sixty-second session (MEPC 62/24).

[325] See report of the Open-ended Working Group of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal on the work of its seventh session (UNEP/CHW/OEWG/7/21), decision OEWG-VII/12.

[326] See *Basel Convention Bulletin, March 2011*, available from www.basel.int/press/bulletin-2011-03-11.pdf.

international instruments.[327] To date, there has been no legally binding regime in force for pollution of the marine environment resulting from sources other than shipping activities. In that regard, at its ninety-seventh session, the IMO Legal Committee, in November 2010, considered the *Deepwater Horizon* (2010) and *Montara* (2009) incidents, and recommended that the Council amend the IMO strategic plan to accommodate liability and compensation for oil exploration and exploitation.[328]

221. *International Convention on Civil Liability for Bunker Oil Pollution Damage*. At its ninety-seventh session, the IMO Legal Committee approved a draft resolution recommending that parties to the International Convention on Civil Liability for Bunker Oil Pollution Damage, inter alia, require ships with gross tonnage greater than 1,000 that fly their flag or traverse their facilities to be insured and hold a Bunkers Certificate even if the ship held a Civil Liability Convention certificate. The resolution was scheduled to be considered by the IMO Assembly at its twenty-seventh session, in November 2011.[329]

222. *International Oil Pollution Compensation Funds*. The Executive Committee of the 1992 International Oil Pollution Compensation Fund continued to consider matters related to the *Erika* (1999), *Al Jaziah 1* (2000), *Prestige* (2002), *Kwang Min No. 7* (2005), *Solar 1* (2006), *Volgoneft 139* (2007), *Hebei Spirit* (2007), and *King Darwin* (2008) incidents and the incident in Argentina (2007).[330]

223. The Council of the 1971 Fund considered developments in the *Vistabella* (1991), *Aegean Sea* (1992), *Iliad* (1993), *Nissos Amorgos* (1997), *Plate Princess* (1997) and *Evoikos* (1997) incidents.

224. *Hazardous and Noxious Substances Convention*. The IMO Legal Committee, at its ninety-eighth session, in April 2011, approved the consolidated text of the 1996 International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea and the 2010 Protocol thereto.

225. *Other liability regimes*. In January 2011, at its second session, the intergovernmental negotiating committee tasked with preparing a global legally binding instrument on mercury discussed liability and compensation initiatives.[331] The new draft text provides for the adoption of liability and compensation measures for damage from transboundary movements of mercury wastes.[332]

226. In October 2010, parties to the Cartagena Protocol on Biosafety to the Convention on Biological Diversity adopted the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety, which establishes international rules and procedures for liability and

[327] A/63/63/Add.1, para. 209.

[328] See "IMO Legal Committee supports follow-up to Deepwater Horizon and Montara", International Maritime Organization, 19 November 2010, available from www.imo.org/MediaCentre/MeetingSummaries/Legal/Pages/LEG-97th-Session.aspx.

[329] Ibid.

[330] See "Ongoing incidents", International Oil Pollution Fund, 1 June 2011, available from www.iopcfund.org/ongoing.htm.

[331] See report of the intergovernmental negotiating committee to prepare a global legally binding instrument on mercury on the work of its second session (UNEP(DTIE)/Hg/INC.2/20).

[332] See UNEP(DTIE)/Hg/INC.3/3.

compensation for damage to biological diversity resulting from living modified organisms. The Supplementary Protocol is opened for signature from 7 March 2011 to 6 March 2012.

227. Emphasizing the need for a global nuclear liability regime,[331] IAEA recommended accelerating the adoption of international instruments for civil liability on nuclear damage.[332] In January 2011, the Agency published its International Legal Framework for Nuclear Security, which suggests that States requesting assistance for nuclear accidents provide compensation for environmental damage incurred during assistance.

J. Area-based management tools

228. Area-based management, as part of an array of management measures, is an important tool for the conservation and sustainable use of marine biodiversity and can have important benefits for sustainable development.[333]

229. The Ad Hoc Open-ended Informal Working Group continued to consider issues related to area-based management beyond areas of national jurisdiction, including marine protected areas. Developments in other forums are briefly described below.

230. *Ecologically or biologically significant marine areas in need of protection.* The Conference of the Parties to the Convention on Biological Diversity, at its tenth meeting, in October 2010, established a process, including a series of workshops and the development of a repository, to facilitate the description of ecologically or biologically significant marine areas through the application of the scientific criteria set out in annex I to decision IX/20.[334] The Secretariat of the Convention is convening a series of regional workshops on identifying such areas in collaboration with parties and competent international and regional organizations.[335] A joint scientific workshop of the OSPAR Commission, the North-East Atlantic Fisheries Commission and the secretariat of the Convention, on the identification of ecologically or biologically significant marine areas in the North-East Atlantic, was expected to be held in September 2011.[336] Another workshop was scheduled for the Western South Pacific region in November 2011.[336]

[331] See "Ministers' Declaration envisions strengthened nuclear safety regime", International Atomic Energy Agency, 20 June 2011, available from http://www.iaea.org/newscenter/news/2011/confsafety200611-3.html.

[332] "IAEA reviews progress of UAE nuclear power programme: international team finds country's programme progressing well", International Atomic Energy Agency, 24 January 2011, available from www.iaea.org/newscenter/news/2011/uaeprogramme.html.

[333] See *Global Ocean Protection: Present Status and Future Possibilities* (Agence des aires marines protegees, World Commission on Protected Areas of the International Union for the Conservation of Nature, World Conservation Monitoring Centre of UNEP, Nature Conservancy, United Nations University and World Conservation Strategy, 2010).

[334] See decision X/29 Conference of the Parties to the Convention on Biological Diversity; see also A/66/70, paras. 162-163.

[335] Convention on Biological Diversity secretariat contribution.

[336] See summary record of the meeting of the OSPAR Commission, 20-24 June 2011 (OSPAR 11/20/1-E), available from http://www.ospar.org/v_meetings/browse.asp.

[336] See Convention on Biological Diversity notification SCBD/STIM/JL/JG/77026 (2011-136), available from www.cbd.int/marine/notifications.shtml.

251. The IOC-organized expert meeting on deep-water biodiversity in the South Atlantic had, among its objectives, the identification of potential ecologically or biologically significant marine areas in the South Atlantic.[340]

252. *Marine protected areas*. Owing to slow progress in the establishment of marine protected areas worldwide, including networks of such areas,[341] new targets adopted by the Conference of the Parties to the Convention on Biological Diversity at its tenth meeting, held in October 2010, called for the expansion of the global protected area network, including in marine areas. Under the new targets, 10 per cent of coastal and marine areas are to be conserved by 2020 through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider seascapes.[342]

253. As noted in *The Millennium Development Goals Report, 2011*, an expansion of areas will deliver benefits for biodiversity only if they are well managed and supported.[343] A technical study by UNEP on the governance of marine protected areas concluded, inter alia, that in order to achieve a high level of effectiveness in meeting marine protected area objectives and making governance frameworks more resilient, different categories of incentives (economic, interpretative, knowledge-related, legal and participative) should be employed in a balanced and mutually supportive way, and that "top-down" and "bottom-up" approaches were not necessarily exclusive.[344]

254. The OSPAR Commission, at its meeting held in June 2011, endorsed the draft collective arrangement among competent authorities on the management of selected areas in areas beyond national jurisdiction within the OSPAR Maritime Area.[345] The arrangement specifies, inter alia, that such cooperation should be based on the international legal framework for regulating activities in areas beyond national jurisdiction provided by the United Nations Convention on the Law of the Sea.[346] A second informal meeting of competent authorities is scheduled for January 2012. With a view to resolving outstanding issues related to the water column of the northern part of the marine protected area originally proposed in the Charlie-Gibbs Fracture Zone, new terms of reference for the intersessional correspondence group on marine protected areas were adopted, including, if appropriate, the preparation of draft measures for the designation and management of the protected area for consideration by the OSPAR Biodiversity Committee in 2012.[347]

255. The Commission also considered the merits of a proposal to IMO for recently designated marine protected areas in the OSPAR Maritime Area to be designated as Particularly Sensitive Sea Areas or Special Areas, and agreed on further work to establish whether there was evidence to suggest that any of the OSPAR marine

[340] IOC contribution.
[341] See decision X/29 of the Conference of the Parties to the Convention on Biological Diversity.
[342] Ibid.; see also A/66/70, paras. 170-171.
[343] United Nations, *Millennium Development Goals Report 2011*.
[344] See *Governing Marine Protected Areas: Getting the Balance Right* (UNEP, 2011); see also www.mpag.info/.
[345] A/66/70, para. 174.
[346] See annex 15 to the summary record of the meeting of the OSPAR Commission, 20-24 June 2011 (OSPAR 11/20/1-E), available from www.ospar.org/v_meetings/browse.asp.
[347] See annex 16 to the summary record of the meeting of the OSPAR Commission, 20-24 June 2011 (OSPAR 11/20/1-E), available from www.ospar.org/v_meetings/browse.asp.

protected areas in areas beyond national jurisdiction were vulnerable to shipping impacts.[348]

236. The Commission for the Conservation of Antarctic Marine Living Resources, at its twenty-ninth meeting, held in October and November 2010, noted the discussions of the scientific committee on a process to develop a representative system of marine protected areas that could be applied to data-poor areas, while different approaches might be more appropriate in regions where sufficient data sets existed, such as the Ross Sea and the South Orkney Islands. It also endorsed the recommendation that the process for the designation of a marine protected area include the development of a research and monitoring programme, and that the development of a designation process and a monitoring plan be carried out in a stepwise fashion or that both processes be conducted simultaneously.[349]

237. The contracting parties to the Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West, Central and Southern African Region, meeting in April 2011, adopted a decision on the development of a protocol concerning marine protected areas, in which a process for the development of such a protocol was defined. In addition, the contracting parties were urged to establish, expand or reinforce marine protected areas in areas under their jurisdiction.[350]

238. *Special Areas and Particularly Sensitive Sea Areas*. The Marine Environment Protection Committee, at its sixty-second session, in July 2011, adopted amendments to annex IV to MARPOL 73/78 (prevention of pollution by sewage from ships) to include the possibility of designating the Baltic Sea as a Special Area (see paragraph 194).[351]

239. The Committee also agreed to designate the Strait of Bonifacio (and, in principle, the Saba Bank in the Caribbean Sea) as a Particularly Sensitive Sea Area. The latter is expected to be finally designated at the sixty-fourth session of the Committee, in October 2012, following the approval of the proposed associated protective measures by the Subcommittee on Safety of Navigation.[352]

240. Following a decision taken by the Marine Environment Protection Committee in 2010, discharge requirements for the Wider Caribbean Region Special Area under annex V to MARPOL 73/78 (garbage) took effect on 1 May 2011.

241. *Emission control areas*. The Marine Environment Protection Committee adopted amendments to MARPOL 73/78 to designate certain waters adjacent to the coasts of Puerto Rico and the Virgin Islands as an emission control area (the United States Caribbean Sea Emission Control Area) for the control of emissions of nitrogen

[348] See summary record of the meeting of the OSPAR Commission, 20-24 June 2011 (OSPAR 11/20/1-E), available from www.ospar.org/v_meetings/browse.asp.

[349] See report of the twenty-ninth meeting of the Commission for the Conservation of Antarctic Marine Living Resources, available from www.ccamlr.org/pu/E/e_pubs/cr/drt.htm.

[350] See decision CP.9/12; see also "Decisions adopted by the Contracting Parties to the Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West, Central and Southern African Region", available from www.unep.org/AbidjanConvention/COP9/COP9_Outputs.asp.

[351] Report of the Marine Environment Protection Committee on its sixty-second session (MEPC 62/24), paras. 6.5-6.14 and 6.36.

[352] Ibid., paras. 9.1-9.12; see also www.imo.org/MediaCentre/PressBriefings/Pages/43%20MEPC62ENDS.aspx.

oxides, sulphur oxides and particulate matter under annex VI to MARPOL 73/78. The amendments are expected to enter into force on 1 January 2013, with the new emission control area taking effect on 1 January 2014.[353] The North American emission control area, established in March 2010,[354] entered into force on 1 August 2011 and will take effect on 1 August 2012.

242. *World Heritage Sites*. At its thirty-fifth session, in June 2011, the World Heritage Committee added the Saloum Delta (Senegal), the Ningaloo Coast (Australia) and the Ogasawara Islands (Japan) to the UNESCO World Heritage List.[355] A meeting of marine World Heritage Site managers was held in December 2010 to share success stories and management experiences.[356]

243. *Biosphere reserves*. At its twenty-third session, in June and July 2011, the International Coordinating Council of the Programme on Man and the Biosphere added the following coastal and marine sites to the World Network of Biosphere Reserves: Songor (Ghana), Baa Atoll (Maldives), Berlengas (Portugal), Saint Mary's (Saint Kitts and Nevis), Blekinge Archipelago (Sweden) and Santana Madeira (Portugal).[357] In June 2011, on the occasion of the fortieth anniversary of the UNESCO Programme on Man and the Biosphere, a conference on biosphere reserves and climate change was held, at which the Dresden Declaration on Biosphere Reserves and Climate Change was adopted.[358]

244. *Marine spatial planning*. IOC developed a training course on marine spatial planning that assists in disseminating marine spatial planning methodologies.[359] The Commission indicated that it was focusing on monitoring the effectiveness of marine spatial planning and disseminating more broadly the marine spatial planning guidelines.[360]

245. At its meeting in June 2011, the OSPAR Commission endorsed terms of reference for an intersessional correspondence group on marine spatial planning.[361] A joint workshop among the Commission, the Baltic Marine Environment Protection Commission and the International Council for the Exploration of the Sea on marine spatial planning was scheduled to be held in November 2011.[362]

[353] Ibid., paras. 6.29-6.34 and 6.36.

[354] A/65/69/Add.2, para. 302.

[355] See http://whc.unesco.org/en/newproperties.

[356] See http://whc.unesco.org/en/events/716; at the time of writing, the report on the meeting was not available.

[357] See www.unesco.org/new/en/natural-sciences/about-us/single-view/news/18_new_biosphere_reserves_added_to_unescos_man_and_the_biosphere_mab_programme/.

[358] See www.mab40-conference.org/index.php?id=about and www.mab40-conference.org/index.php?id=360&tx_ttnews[tt_news]=81&cHash=e6d57d4cb99e8622172 6d61bd96962ac; see also "For life, for the future: biosphere reserves and climate change: a collection of good practice case studies", available from www.mab40-conference.org/index.php?id=360&tx_ttnews[tt_news]=69&cHash=40bca6fa304f0f20d45046e3857c6f94.

[359] IOC contribution; the training course is available from www.oceanteacher.org.

[360] *Marine Spatial Planning: A Step-by-Step Approach toward Ecosystem-based Management* (Intergovernmental Oceanographic Commission, 2009).

[361] See annex 17 to the summary record of the meeting of the OSPAR Commission, 20-24 June 2011 (OSPAR 11/20/1-E), available from http://www.ospar.org/v_meetings/browse.asp.

[362] See summary record of the meeting of the OSPAR Commission, 20-24 June 2011 (OSPAR 11/20/1-E), available from http://www.ospar.org/v_meetings/browse.asp.

K. Sustainable use of non-living resources and development of marine renewable energy

1. Non-living resources

246. In response to concern over the Deepwater Horizon accident in the Gulf of Mexico, the 2010 ministerial meeting of the OSPAR Commission, held in September 2010 in Bergen, Norway, considered the issue of the prevention of significant oil pollution from offshore drilling activities in extreme conditions. Commission Ministers adopted a recommendation to, inter alia, review existing frameworks.[363]

247. The International Oil Spill Prevention and Preparedness Conference, held in Portland, Oregon, United States, in May 2011, gathered oil spill response experts from around the world, contributing to and enabling a culture of preparedness within the oil spill community, the broader field of incident management, and society as a whole.[364]

2. Marine renewable energy

248. Notwithstanding the fact that the oceans represent a viable source of renewable marine energy, the deployment of certain technologies in the marine environment may lead to environmental harm.[365] For example, relatively little is known about the potential impacts of marine renewable energy development on cetaceans. The scientific committee of the International Whaling Commission, meeting in May 2011, noted recurring concerns regarding the lack of adequate baseline studies on this matter, and endorsed an outline proposal for a workshop on interactions between marine renewable development (particularly wind farms) and cetaceans. The committee also received a review on the status of marine renewable energy developments and potential impacts that these developments may have on cetaceans.[366]

249. The IOC Subcommission for the Western Pacific is planning a regional workshop entitled "Research and development of marine renewable energy technologies", scheduled to be held in November 2011 in Malaysia. The workshop will bring together regional experts, promoting the research and development of marine renewable technology by facilitating the establishment of a research and development network, assessing the current level of research, development and implementation of marine renewable energy technologies, disseminating the world's best practice among member States in the Western Pacific region and further identifying the pilot projects among member States in this field.[367]

250. For wave energy and tidal stream energy, the installed power was reported by several States as 2 MW and 4 MW, respectively, at the end of 2010. This technology was mainly in a demonstration phase of single units, with some of the deployments being short-duration testing programmes and a few prototypes initiating the first

[363] UNEP contribution.
[364] See www.iosc.org/.
[365] A/66/70/Add.1, para. 361.
[366] Report of the International Whaling Commission Scientific Committee, 30 May-11 June 2011, para. 12.6.1.
[367] IOC contribution.

steps towards the commercialization phase. Only tidal barrage systems had achieved commercial scale and provided the principal contribution to the global ocean energy installed power.[368]

251. The fourth International Conference on Ocean Energy will be held in Dublin in October 2012.[369] In December 2010, the Small Island Developing States Sustainable Energy Initiative was launched to facilitate the development of a sustainable energy economy within the small island developing States, to increase energy efficiency by 25 per cent and to generate a minimum of 50 per cent of electric power from renewable sources by 2033.[370] The Informal Consultative Process will consider marine renewable energy as the topic of focus at its thirteenth meeting, in 2012.

L. Regional cooperation

252. UNEP, in partnership with the regional seas conventions and action plans, undertook the development of the Marine Biodiversity Assessment and Outlook Series. These assessments, contained in 19 regional reports, provide a perspective on the current state of marine biodiversity in the areas covered by the regional seas conventions and action plans, through a series of pressure and response indicators.[371]

253. The global synthesis report highlights the need for cross-sectoral approaches to the management of the marine and coastal environment and for further action by parties to multilateral environment agreements and regional agreements, such as the regional seas conventions and action plans, to utilize these reports in setting long-, medium- and short-term management targets. The development and support of such management targets will require an improved information base for measuring progress in addressing pressures and the effectiveness of responses.[372]

254. On 4 August 2011, UNEP issued an assessment showing that the environmental restoration of the oil-polluted Ogoniland (Nigeria) could prove to be the world's most wide-ranging and long-term oil clean-up exercise ever undertaken. The clean-up will represent a major ecological restoration enterprise with potentially multiple positive effects, ranging from bringing the various stakeholders together to achieving lasting improvements for the Ogoni people.[373]

1. Antarctic

255. The thirty-fourth Antarctic Treaty Consultative Meeting was held in Argentina in June and July 2011.[374] During the Meeting, the Committee for Environmental Protection considered environmental impacts associated with drilling into subglacial

[368] *Annual Report 2010: Implementing Agreement on Ocean Energy Systems* (International Energy Agency, Energy Technology Network).

[369] See www.icoe2012dublin.com/ICOE_2012.

[370] See http://aosis.info/sids-dock/#_ftn1.

[371] UNEP contribution.

[372] Ibid.

[373] See "UNEP Ogoniland oil assessment reveals extent of environmental contamination and threats to human health", available from www.unep.org/newscentre/Default.aspx?DocumentID=2649&ArticleID=8827&l=en.

[374] See www.ats.aq/devPH/noticia_completa.aspx?IdNews=62&lang=e.

areas and revised the management plan for 10 Antarctic specially protected areas. By producing a manual of control techniques, the Committee continued to make progress in stopping the introduction of non-native species into the Antarctic. The Committee's consideration of the proposed Jang Bogo station of the Republic of Korea has clearly demonstrated how sustainable energy, good waste management and imaginative design could lessen the human impact on Antarctica of scientific stations addressing some of the most important issues of global change.[375] Meeting participants also began to tackle the difficulty of assessing the risks posed by tsunamis, owing to the high number of research stations located in coastal areas.

256. The parties to the Antarctic Treaty adopted the Buenos Aires Declaration, thus marking the fiftieth anniversary of the entry into force of the Treaty.[376]

2. The Arctic

257. The seventh ministerial meeting of the Arctic Council was held in Greenland in May 2011. The Council adopted an Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic,[377] and identified the need for the prevention of, preparedness for and response to oil spills. A study had been released showing the impact of climate change on the Arctic. Another study had revealed that "soot" or black carbon, ground-level ozone and methane might account for up to 40 per cent of observed warming in the Arctic.

258. In its final Declaration, the Council decided to establish an Arctic ecosystem-based management group and a task force to develop an international instrument on Arctic marine oil preparedness and response, and to task senior arctic officials with considering ways in which to maximize the legacy of the International Polar Year, including through support for a proposal on an International Polar Decade in the light of the rapid change in the climate of the Arctic and the need for coordinated research.[378]

259. A conference on arctic science, international law and climate protection was held in Berlin in March 2011 to discuss issues related to the dramatic changes in the Arctic that had resulted in the need for concerted monitoring and research.[379]

3. Baltic Sea

260. The Baltic Marine Environment Protection Commission met on 14 June 2011 to discuss, inter alia, its overarching Baltic Sea Action Plan aimed at re-creating a healthy Baltic marine environment by 2021, and progress made in the review of environmental targets relating to eutrophication and in the review of the Baltic Sea monitoring programme. The Commission also considered a project proposal entitled "Managing fisheries in Baltic marine protected areas". In addition, the Commission

[375] Ibid.

[376] See www.ats.aq/documents/ATCM34/op/ATCM34_op031_rev1_e.pdf.

[377] See http://arctic-council.org/filearchive/Press%20Release%20-%20Arctic%20Council%20Nuuk%20Ministerial%20Meeting.pdf.

[378] See Nuuk Declaration, available from http://arctic-council.npolar.no/accms/export/sites/default/en/meetings/2011-nuuk-ministerial/docs/Nuuk_Declaration_FINAL.pdf.

[379] See A/65/912.

discussed progress in the reduction of pollution from several municipal and industrial hotspots.[180]

4. Black Sea

261. The Black Sea Biodiversity and Landscape Conservation Protocol to the Convention on the Protection of the Black Sea against Pollution was expected to enter into force later in 2011. The draft biodiversity action plan was under revision.[181]

262. The collection of information on the development of policy and legal documents at the national level, as well as environmental data regarding the state of the Black Sea ecosystem and its coast quality checks, together with the exchange and dissemination of knowledge in this regard, remain among the basic tasks of the Black Sea Commission. An important report assessing the availability of data in the Black Sea region and their suitability for indicator-based reporting was produced with the financial support of the European Environment Agency. The final document, entitled "Diagnostic report to guide improvements to the regular reporting process on the state of the Black Sea environment", was published.[182]

263. The Black Sea Commission continues to produce regular annual reports on land-based sources, in which major municipal industrial sources of pollution and river loads are evaluated in terms of how they contribute to the contamination of the Black Sea.

264. The Commission is also participating in the project entitled "People for ecosystem-based governance in assessing sustainable development of ocean and coast",[183] aimed at the development of novel approaches to support integrated policies in the Mediterranean and Black Sea Basins.[184]

265. Recommendations on environmental impact assessments in a transboundary context for the Black Sea region have been formulated in cooperation with the secretariat of the 1991 Convention on Environmental Impact Assessment in a Transboundary Context.[185] The document will be submitted to the Black Sea Commission for national consultations and adoption.[186]

5. Caspian Sea

266. The third Conference of the Parties to the Framework Convention for the Protection of the Marine Environment of the Caspian Sea, held in August 2011 in Aktau, Kazakhstan, saw the adoption of two new Protocols to the Convention. The Protocol on Regional Preparedness, Response and Cooperation in Combating Oil Pollution Incidents will assist in protecting and preserving the Caspian Sea

[180] See press release announcing the meeting, available from www.helcom.fi/press_office/news_helcom/en_GB/HOD35_Meeting.

[181] UNEP contribution.

[182] UNEP contribution; see www.blacksea-commission.org/_publ-BSDiagnosticReport2010.asp.

[183] For further information, see http://www.pegasoproject.eu/.

[184] UNEP contribution.

[185] For further information, see press release entitled "Parties to Espoo Convention take stock of 20 years of transboundary environmental impact assessment in the United Nations Economic Commission for Europe region", 14 June 2011, available from www.unece.org/press/pr2011/11env_p24e.htm.

[186] UNEP contribution.

environment against the threats posed by oil pollution, including through the introduction of an emergency response system for dealing with oil pollution incidents. The Protocol on Environmental Impact Assessment in a Transboundary Context, once finalized, will introduce common rules for the assessment by States of any planned activities likely to have significant adverse effects on the marine environment; it will also require States to notify one another of such activities.[387] In addition, a draft protocol for the protection of the Caspian Sea against pollution from land-based sources and activities and a draft protocol on the conservation of biological diversity were forwarded to the Governments of the Caspian States for internal approval, on 25 March and 15 April 2011, respectively.[388]

6. East Asian and South Asian Seas

267. In the East Asian region, the need to enhance appropriate measures to counteract the impacts of climate change was highlighted at a workshop on climate change, sea-level rise and coastal erosion organized by the Coordinating Body on the Seas of East Asia, held in Bangkok in April 2011.[389]

268. The Partnerships in Environmental Management for the Seas of East Asia continued the implementation of the sustainable development strategy for the seas of East Asia, including by publishing, in January 2011, a magazine entitled *Good Practices in Water Management and Climate Change*.[390] It emphasized, inter alia, the nexus among water, energy, food and the environment.

269. In the South Asian Seas region, an outlook report prepared by the South Asia Cooperative Environment Programme was launched to contribute to discussions on marine and coastal biodiversity.[391] The Programme has also developed a regional oil and chemical pollution contingency plan and an associated memorandum of understanding, in association with IMO.

7. Mediterranean Sea

270. The UNEP Mediterranean Action Plan has taken a series of actions to fulfil commitments enshrined in the Almeria Declaration and implement the Global Strategic Directions for the Regional Seas Programme 2008-2012.

271. In March 2011, the Mediterranean Action Plan strengthened its legal framework with the entry into force of two Protocols aimed at addressing offshore pollution and coastal degradation threats, namely, the 1994 Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and Its Subsoil (Offshore

[387] See http://unep.org/NEWSCENTRE/default.aspx?DocumentID=2649&ArticleID=8832 and www.tehranconvention.org/spip.php?article48.

[388] See TC/COP3/5 and TC/COP3/6, available from www.tehranconvention.org/spip.php?article48.

[389] See http://cobsea.org/index.html; the report on this workshop was still unavailable at the time of the preparation of the present report.

[390] See http://beta.pemsea.org/sites/default/files/tc_v16n2.pdf.

[391] See South Asia Cooperative Environment Programme newsletter, December 2010, available from www.sacep.org/pdf/sn_december_2010.pdf.

Protocol)[392] and the 2008 Protocol on Integrated Coastal Zone Management in the Mediterranean (ICZM Protocol).[393]

272. The Offshore Protocol is aimed at establishing an effective management system to protect the Mediterranean Sea from pollution resulting from exploration and exploitation of the continental shelf, the seabed and the subsoil. It establishes mutual assistance in case of emergency, and sets up a system of authorization, monitoring and strict liability. The ICZM Protocol provides tools for ensuring that human actions are undertaken with a concern for balancing economic, social and environmental goals and priorities in the long term. It also contains useful and innovative tools, such as the 100-metre no-building line, strategic environmental impact assessments, carrying capacity assessments and participatory planning approaches.[394]

273. In preparation for the United Nations Conference on Sustainable Development, the Mediterranean Commission on Sustainable Development issued a report, entitled "The strengthening of national sustainable development strategies is key to green economy transition in the Mediterranean", following its meeting held in May and June 2011. The report stressed the need to strengthen national strategies for sustainable development, together with the need for a more effective regional institutional framework for sustainable development.[395]

8. North-East Atlantic

274. The OSPAR Commission's *Quality Status Report 2010*, which was launched at the ministerial meeting of the Commission held in September 2010, represents the culmination of 10 years of joint monitoring and assessment of the marine environment in the North-East Atlantic, and provides a basis for future decision-making in the region.[396] The comprehensive assessment report examines all aspects of human influence on the sea, including climate change, eutrophication, hazardous substances, radioactive substances, the offshore oil and gas industry, fishing, and other human uses and impacts on biodiversity and ecosystems. The report assesses progress made through the implementation of Commission activities, identifies new and existing challenges, and recommends measures to be taken.

275. Key findings of the report include the following: climate change and ocean acidification are now evident, particularly in the North; a better understanding is needed of the combined pressures on the marine environment from activities relating to offshore renewable energy, mineral extraction, shipping, mariculture and coastal defence reinforcement, all of which should be managed in an integrated manner; biodiversity continues to be heavily threatened; and fishing continues to

[392] The Offshore Protocol has been ratified by Albania, Cyprus, the Libyan Arab Jamahiriya, Morocco, the Syrian Arab Republic and Tunisia.

[393] The ICZM Protocol has been ratified by Albania, the European Union, France, Slovenia, Spain and the Syrian Arab Republic; see "Legal instruments reducing risks from offshore exploration activities and protecting the Mediterranean coasts' degradation enter into force today", 24 March 2011, available from www.unepmap.org/index.php?module=news&action=detail&id=110.

[394] See ICZM Protocol, articles 8 and 16-21.

[395] See "Strengthening national sustainable development strategies is key to green economy transition in the Mediterranean", 6 June 2011, available from www.unep.org/greeneconomy/Portals/88/documents/news/Mediterranean%20Commission.pdf.

[396] See http://qsr2010.ospar.org/en/index.html; complete version available from http://qsr2010.ospar.org/en/media/chapter_pdf/QSR_complete_EN.pdf.

have a large impact on marine ecosystems, despite the improved management of fisheries. The report also notes reductions in pollution from nutrient inputs, hazardous substances, radioactive discharges and oil and gas production, but indicates that more work is needed to tackle these issues.[397] Key recommendations contained in the report include: the extension of the OSPAR network of marine protected areas, especially in key areas away from coasts; cooperation to promote sustainable fishing; and the development of policies aimed at mitigating climate change and acidification.[398]

276. At its ministerial meeting, the OSPAR Commission adopted the Bergen Statement, which sets forth commitments regarding, inter alia, the application of an ecosystem approach; the coordinated implementation of the European Union Marine Strategy Framework Directive; addressing pollution and other adverse impacts of human activities; protecting marine areas, species and habitats; and responding to the challenges of a changing climate.[399] It also adopted the North-East Atlantic Environment Strategy for the period 2010-2020, which provides a goal-based strategic framework for the Commission, including with respect to the application of the ecosystems approach and thematic areas such as biodiversity and ecosystems, eutrophication, hazardous substances, the offshore oil and gas industry, and radioactive substances.[400]

277. On 24 November 2010, parties to the 1983 Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil and other Harmful Substances (Bonn Agreement), adopted the Bonn Agreement Action Plan 2010-2013, which includes three strategic aims: (a) preventing illegal and accidental pollution through collaboration and collective contribution to the enforcement of maritime pollution rules and standards; (b) promoting and providing for efficient emergency preparedness; and (c) organizing optimum response capacities when incidents occur.[401] The Action Plan also promotes a Bonn Agreement area-wide risk assessment that will take into account the environmental sensitivity of marine and coastal areas and adequate balances of resources for response work.[402] In addition, the parties agreed to strengthen cooperation with the OSPAR Commission as regards pollution from shipping, offshore oil and gas operations and other maritime activities.[403]

9. North-West Pacific

278. At the fifteenth intergovernmental meeting of the Northwest Pacific Action Plan, held in Moscow in November 2010, member States considered a draft medium-term strategy for the period 2012-2017.[404] The draft strategy was expected

[397] See http://qsr2010.ospar.org/en/media/content/pdf/ch00-Keyfindings_EN.pdf.

[398] OSPAR Commission, *Quality Status Report 2010*, "Key findings", available from http://qsr2010.ospar.org/en/media/content/pdf/ch00-Keyfindings_EN.pdf.

[399] See www.ospar.org/html_documents/ospar/html/annex49_ministerial_statement.doc.

[400] See www.ospar.org/html_documents/ospar/html/annex25_nea_environment_strategy.doc.

[401] Bonn Agreement Action Plan 2010-2013, Dublin, 24 November 2010, available from http://www.bonnagreement.org/eng/html/welcome.html. The Action Plan will be reviewed in 2012.

[402] See www.bonnagreement.org/eng/doc/PR_10_BONN_2010_final.pdf.

[403] Declaration of the First Ministerial Meeting of the Bonn Agreement (Dublin Declaration), 24 November 2010, paras. 11 and 13.

[404] See UNEP/NOWPAP/IG.15/6; see also UNEP/NOWPAP/IG.15/12, resolution 3.

to be given final approval at the sixteenth intergovernmental meeting of the Action Plan, to be held in China in late 2011.[405]

279. The Northwest Pacific Action Plan is currently working on a second comprehensive review of marine environmental problems in the region.[406] On the occasion of the 2010 International Year of Biodiversity, the Action Plan initiated activities related to the assessment of coastal and marine biodiversity in the region. It also updated and compiled previous data and information on marine and coastal biodiversity, marine protected areas and fishing fleets.[407] The Action Plan is continuing work on ecosystem evaluation, marine spatial planning and ecosystem-based management to be carried out within the framework of integrated coastal and river basin management.

280. The Northwest Pacific Action Plan regional action plan on marine litter continues to be implemented in cooperation with various stakeholders, including at the local level.[408] For example, in October 2010 the tenth annual Northwest Pacific Action Plan international coastal clean-up and workshop on marine litter was held in Jeju, Republic of Korea. The Action Plan has also undertaken a second regional overview of marine litter and the updating of its "Marine litter guidelines for tourists and tour operators in marine and coastal areas", to be completed by 2011.[409]

10. Pacific

281. In its recently adopted strategic plan for the period 2011-2015, the secretariat of the Pacific Regional Environment Programme identified four priorities for its work: climate change; biodiversity and ecosystem management; waste management and pollution prevention; and environmental monitoring and governance. For each priority, it set out agreed targets and goals to be achieved by 2015 by members of the Programme, in partnership with the secretariat.

282. With regard to biodiversity, the secretariat of the Programme organized a meeting entitled "Implementing the Nagoya outcomes: review and planning meeting", held in Nadi, Fiji, in May 2011.[410] The meeting was aimed at ensuring that the decisions adopted at the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity, including with regard to the development of post-2010 strategic plan goals and targets, took into account the needs of small island developing States.

283. In the field of ecosystem management, at the end of 2010 several members of the Pacific Regional Environment Programme had reviewed their legislation on the protection of marine species in order to comply with the Programme's regional marine species programme for the period 2008-2012.[411] The year 2011 was declared

[405] See www.nowpap.org/news/quarterly/11-1.pdf.

[406] See http://dinrac.nowpap.org/documents/NOWPAP_POMRAC_SOMER.pdf and www.nowpap.org/new_projects.php.

[407] See *Threats to Marine and Coastal Biodiversity in the NOWPAP Region* (Northwest Pacific Action Plan, June 2010).

[408] See http://www.nowpap.org/news/quarterly/11-1.pdf.

[409] See UNEP/IMO/NOWPAP/MERRAC/EPM.14/11, p. 2.

[410] See www.sprep.org/att/publication/000925_Pacific_Post_CBD_COP10_Mtg.pdf.

[411] See *Pacific Islands Marine Species Programme 2008-2012* (2007), available from www.sprep.org/topic/pdf/marinespecieswcb.pdf.

the Pacific Year of the Dugong in order to promote conservation of this rare species of marine mammal and its sea grass habitats.

284. Finance and environment ministers from the Pacific met in July 2011 to discuss opportunities and challenges in the building of green economies in the region, in the first of a series of preparatory meetings for the United Nations Conference on Sustainable Development.[412]

11. Red Sea and Gulf of Aden

285. In the context of the Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden, a number of multidisciplinary training programmes and workshops were organized, including on the assessment and management of coastal hazards; pollution from land-based activities; adaptation to climate change impacts; the implementation of assessment and best available technology/best environment practices; and the climatology and climate variability of the Red Sea and Gulf of Aden large marine ecosystem.[413]

286. The Regional Organization has partnered with the World Bank to develop a regional project on the strategic management of the Red Sea and Gulf of Aden.[414] In April 2011, the second meeting of the regional working group responsible for establishing a port State control memorandum of understanding agreed on a final draft text.[415]

287. The fourteenth meeting of the Ministerial Council of the Regional Organization, held in March 2011, approved the Regional Organization's workplan for the biennium 2011-2012.[416] In January 2011, the Regional Organization and the United Nations Industrial Development Organization discussed broadening their collaboration to include new projects on contamination in ports and excellence in the application of the best available technology and best environmental practices in cutting unintentional emissions of persistent organic pollutants.[417]

12. South-East Pacific

288. The IX Assembly of the Permanent Commission for the South Pacific, meeting in November 2010, adopted strategic priorities for the period 2011-2014, which include issues relating to competitiveness for sustainable development, the implementation of an ecosystem approach and the establishment of an integrated knowledge node.[418]

289. Together with IOC, the Permanent Commission developed, in April 2011, an assessment of early warning systems for tsunamis in the South-East Pacific. The third meeting of the regional plan of action for the conservation of sharks, rays and

[412] See www.sprep.org/article/news_detail.asp?id=954.

[413] See www.persga.org/.

[414] See www.persga.org/calender.php?id=45; the project is based on a project identification document developed by the Regional Organization in August 2008 and approved by the Global Environment Facility in March 2010.

[415] See www.persga.org/calender.php?id=53.

[416] See www.persga.org/calender.php?id=52.

[417] See www.persga.org/calender.php?id=50.

[418] See www.cpps-int.org/.

chimaeras in the South-East Pacific was held in May 2011 to continue the implementation of this important regional conservation plan.[419]

13. Western, central and eastern Africa

290. A workshop to review the state of knowledge regarding the effects of climate change on coral reefs in the Western Indian Ocean region was held in April 2011 by the secretariat of the Nairobi Convention, the Wildlife Conservation Society and the Western Indian Ocean Marine Science Association with a view to identifying the areas that have the best environmental conditions to allow these reefs to survive climate change.[420]

291. The first meeting of the ad hoc legal and technical working group tasked with drafting a protocol to the Nairobi Convention concerning integrated coastal zone management was held in September 2010, followed by the second meeting of the working group, held in December 2010, at which a first draft of the protocol was developed.[421] The third meeting of the working group was held in February 2011 to review the draft text.

292. A regional conference entitled "Climate change impacts, adaptation and mitigation in the Western Indian Ocean region: solutions to the crisis" was held in March 2011, as was a meeting of focal points of the Nairobi Convention to discuss the implementation of the UNEP Africa Marine and Coastal Programme.[422] The seventh Conference of the Parties to the Nairobi Convention is scheduled for 2012.[423]

14. Wider Caribbean

293. Two new working groups, on reviewing lists of species protected under the Protocol concerning Specially Protected Areas and Wildlife to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region and on the exemptions to species protection, were established in February 2011 to assist with the implementation of the Protocol.[424] The UNEP Caribbean Environment Programme, in collaboration with the UNEP Division of Environmental Policy Implementation and the Regional Activity Centre for the Protocol, convened a panel of experts in May 2011 for the first phase of a biodiversity initiative funded by the Government of Spain.[425]

M. Small island developing States

294. Small island developing States face numerous challenges in terms of, inter alia, economic development and environmental preservation. The greatest natural threats to their sustainable development are climate change and sea-level rise. This was acknowledged, in particular, in the outcome document adopted in New York in September 2010 at the high-level Five-Year Review of the Mauritius Strategy for

[419] Ibid.
[420] See www.unep.org/NairobiConvention/Meetings/index.asp.
[421] Ibid.
[422] Ibid.
[423] Ibid.
[424] See www.cep.unep.org/about-cep/spaw/newsletters/spaw-newsletter-nb03-final.pdf.
[425] See www.cep.unep.org/meetings-events/vi-spaw-cop.

the Further Implementation of the Barbados Programme of Action for the Sustainable Development of Small Island Developing States.[476]

295. In preparation for the United Nations Conference on Sustainable Development, to be held in June 2012, a preparatory meeting of Small Island Developing States of the Atlantic, Indian Ocean, Mediterranean and South China Seas was held in the Seychelles in July 2011. At the meeting, it was recognized that small island developing States had inherent unique vulnerabilities that needed to be continuously advocated internationally. In this regard, a key aspect of the green economy for small island developing States was the transition to renewable energy in order to eliminate vulnerability to the price fluctuations of fossil fuels and dependency on costly imports, reduce negative environmental impacts and create economic opportunities. However, solar and tidal energy resources remained untapped, owing to high costs and limited research in small island developing States.[477]

296. Meeting participants noted the pressing need for capacity-building among small island developing States in relation to the law of the sea, in particular concerning the protection of their interests with regard to marine resources, the exclusive economic zone and areas beyond national jurisdiction. A project developed by IOC and the Department of Economic and Social Affairs, aimed at developing a monitoring and evaluation system for the implementation of the Mauritius Strategy, was of significance in helping to address the vulnerability of small island developing States in terms of collecting and analysing the data required. It was noted that the Small Island Developing States Network, in partnership with the AIMSnet website, could function as a tool for information-sharing and facilitating cooperation among stakeholders to advance the sustainable development of small island developing States.[478]

297. While small island developing States have embarked on the development of integrated coastal management strategies, there is a need to support them in the implementation of those strategies.[479] In response to the commitments set out in the Johannesburg Plan of Implementation,[480] UNEP has continued to implement three main projects in the Caribbean, Pacific, Atlantic and Indian Oceans. These are: a project entitled "The management of watersheds and coastal areas in small island developing States", aimed at developing capacity for an integrated approach to such management; and two projects, involving the implementation of sustainable integrated water resource and wastewater management in the Pacific island countries and in the Atlantic and Indian Ocean small island developing States. The latter projects are aimed, respectively, at promoting sustainable development through the Strategic Action Programme for International Waters of the Pacific Islands Region, and at addressing water and marine-related constraints and barriers through the development of integrated water resource management mechanisms and water use efficiency.[481]

[476] See General Assembly resolution 65/2; see also A/66/70/Add.1, sect. III.D.

[477] See www.uncsd2012.org/rio20/content/documents/AIMS%20Rio+20%20Outcome%20document.pdf.

[478] Ibid.

[479] Contribution of the Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States.

[480] See sect. VII and para. 59 of the Johannesburg Plan of Implementation, available from www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf.

[481] UNEP contribution.

298. The Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States will convene an expert group meeting in 2012 with the view to collecting proposals on means of strengthening support for small island developing States in building marine scientific and technological centres, as called for by the General Assembly.[432]

XII. Climate change and oceans

299. Climate change has already affected the ocean in many different ways, and the scale and extent of these impacts are expected to continue increasing.[433]

A. Impacts of climate change on oceans

300. Scientific studies continue to provide evidence of the impacts of climate change on the oceans, including rising sea levels, melting Arctic sea ice, ocean acidification, loss of marine biodiversity, extreme weather events and shifts in the distribution of marine species.[434] According to recent reports, 2010 tied with 2005 as the warmest year of the global surface temperature record, which began in 1880.[435] The year 2010 was also the wettest on record, in terms of global average precipitation.[436] In the Arctic, the extent of sea ice reached its third smallest annual minimum on record, behind 2007 and 2008.[437] Arctic ice also appears to be melting faster than expected, and average global sea level could rise by as much as 1.6 metres this century.[438]

301. *Understanding the impact of climate change on the oceans*. UNEP reported on a new initiative that would address gaps in knowledge concerning carbon sequestration and fluxes in blue carbon ecosystems (e.g., mangroves, salt marshes and seagrasses) by developing standardized tools for measuring, reporting, verifying and monitoring carbon in marine sinks in order to explore the feasibility of their applications in carbon financing mechanisms.[439] The initiative would also establish

[432] Resolution 65/37 A, para. 188.

[433] See *Global Ocean Protection: Present Status and Future Possibilities* (International Union for Conservation of Nature and Natural Resources, 2010), available from http://data.iucn.org.

[434] See, for example, *World Ocean Review: Living with the Oceans* (2010), available from http://worldoceanreview.com/en; *Global Biodiversity Outlook 3* (Convention on Biological Diversity, 2010), available from http://gbo3.cbd.int; *Emerging Issues: Environmental Consequences of Ocean Acidification: A Threat to Food Security* (UNEP, 2010), available from http://www.grid.unep.ch; *Global Synthesis: A Report from the Regional Seas Conventions and Action Plans for the Marine Biodiversity Assessment and Outlook Series* (UNEP, 2010), available from http://www.marinebiodiversityseries.org; *UNEP Year Book 2011: Emerging Issues in Our Global Environment* (2011), available from www.unep.org/yearbook/2011; *The State of World Fisheries and Aquaculture* (FAO, 2010); and *Global Ocean Protection: Present Status and Future Possibilities* (International Union for Conservation of Nature and Natural Resources, 2010), available from http://data.iucn.org.

[435] See "NOAA: 2010 tied for warmest year on record", National Oceanic and Atmospheric Administration, 12 January 2011.

[436] Ibid.

[437] Ibid.

[438] See *Snow, Water, Ice and Permafrost in the Arctic* (Arctic Monitoring and Assessment Programme of the Arctic Council, 2011), available from www.amap.no/swipa.

[439] UNEP contribution; see *Blue Carbon: The Role of Healthy Oceans in Binding Carbon* (UNEP, 2009); see also A/65/69/Add.2, para. 373.

a demonstration programme to work with Governments in implementing such tools that will be aimed at maximizing carbon benefits through the sound ecosystem management of coastal and marine areas. In addition, UNEP would develop and disseminate policy advice and guidelines based on the latest scientific knowledge, through the United Nations Framework Convention on Climate Change and other international climate frameworks.[440]

302. IOC reported that the Second International Symposium on the Effects of Climate Change on the World's Oceans would be held in Yeosu, Republic of Korea, in May 2012.[441] In addition, the Third Symposium on "The Ocean in a High-CO_2 World" will be held in Monterey, United States, in September 2012.[442]

303. At the regional level, IOC is contributing to the assessment of the combined effects of climate change and marine pollution in the Mediterranean Sea. It organized an international workshop in Rabat in June 2011 on the accelerating impacts of climate change and human activities on the marine environment.[443]

304. *Ocean acidification*. UNEP published a report on ocean acidification that highlighted the importance of the marine environment as a source of food and support for societies, and the effects that acidification of the world's oceans might have on marine resources and the people who depended on them. The report recommended actions to mitigate ocean acidification, including determining the vulnerability to ocean acidification of communities dependent on marine resources, identifying species that were more flexible in the face of change and reducing other pressures on fish stocks in order to provide the best chances of success through, for example, marine spatial planning.[444]

B. Mitigating the impact of climate change in the context of ocean-related activities

305. Efforts continue at the international level to mitigate the impact of climate change in the context of ocean-related activities, including by reducing greenhouse gas emissions from ships and sequestering carbon dioxide through ocean fertilization and capture and storage in sub-seabed geological formations.[445]

1. Reduction of greenhouse gas emissions from ships

306. At the sixty-second session of the Marine Environment Protection Committee, in 2011, parties to annex VI to MARPOL agreed to adopt mandatory measures to reduce emissions of greenhouse gases from international shipping.[446] The measures represent the first-ever mandatory global greenhouse gas reduction regime for an

[440] UNEP contribution.
[441] IOC contribution.
[442] Ibid.; see also www.highCO2-in.org.
[443] IOC contribution.
[444] See *Emerging Issues: Environmental Consequences of Ocean Acidification: A Threat to Food Security* (UNEP, 2010), available from www.grid.unep.ch/product/publication/download/Environmental_Consequences_of_Ocean_Acidification.pdf.
[445] For a description of current marine geo-engineering proposals, see LC 32/4.
[446] See report of the Marine Environment Protection Committee on its sixty-second session (MEPC 62/24), see also www.imo.org/MediaCentre/MeetingSummaries/MEPC/Pages/MEPC-62nd-session.aspx.

international industry sector. The amendments add a new chapter 4 to annex VI on regulations regarding energy efficiency for ships in order to make mandatory, for new ships, the Energy Efficiency Design Index and, for all ships, the Ship Energy Efficiency Management Plan, both of which are currently voluntary. Other amendments add new definitions and requirements for survey and certification, including a format for an international energy efficiency certificate. The new chapter includes a regulation on the promotion of technical cooperation and transfer of technology relating to the improvement of the energy efficiency of ships. The regulations will apply to all ships of 400 gross tonnage and above, and are expected to enter into force on 1 January 2013.[447]

307. The introduction of the Energy Efficiency Design Index for all new ships will mean that between 45 million and 50 million tons of carbon dioxide could be removed from the atmosphere annually by 2020, compared with "business as usual" and depending on the growth in world trade. For 2030, the reduction would be between 180 million and 240 million tons annually from the introduction of the Index.[448]

308. The Marine Environment Protection Committee also agreed on a plan to continue the work on energy efficiency measures for ships, including the development of an Energy Efficiency Design Index framework for ship types and sizes and propulsion systems not covered by the current Index requirements, and the development of guidelines related to the Index and the Ship Energy Efficiency Management Plan.[449] Further consideration of market-based measures was deferred to the sixty-third session of the Committee in 2012.

2. Ocean fertilization and carbon sequestration

309. *Ocean fertilization.* At the thirty-fourth meeting of the Scientific Group of the London Convention and the fifth meeting of the Scientific Group of the London Protocol, held in 2011, the Scientific Groups considered progress in collating and analysing overviews of ocean fertilization science, in particular a report prepared by IOC, entitled "Ocean fertilization: a scientific summary for policymakers",[450] and a report by the secretariat of the Convention on Biological Diversity, entitled "Scientific synthesis on the impacts of ocean fertilization on marine biodiversity".[451] The IOC study found that experimental, small-scale iron additions to high-nutrient regions could greatly increase the biomass of phytoplankton and bacteria and the drawdown of carbon dioxide in surface water. However, it was not yet known how iron-based ocean fertilization might affect zooplankton, fish or sea-floor biota, and the magnitude of carbon export to the deep ocean was still uncertain. The study noted that estimates of the overall efficiency of atmospheric carbon dioxide uptake in

[447] See report of the Marine Environment Protection Committee on its sixty-second session (MEPC 62/24). The regulations provide for the waiver of the Energy Efficiency Design Index requirement for new ships of 400 gross tonnage and above in certain circumstances. See also www.imo.org/MediaCentre/MeetingSummaries/MEPC/Pages/MEPC-62nd-session.aspx.

[448] See "EEDI — rational, safe and effective", IMO, 15 July 2011.

[449] See report of the Marine Environment Protection Committee on its sixty-second session (MEPC 62/24); see also www.imo.org/MediaCentre/MeetingSummaries/MEPC/Pages/MEPC-62nd-session.aspx.

[450] See LC/SG 34/INF.3; see also ioc-unesco.org/index.php?option=com_content&view=article&id=290:new-ocean-fertilization-publication.

[451] See LC/SG 33/INF.2.

response to iron-based ocean fertilization had decreased by 5 to 20 times over the past 20 years. Furthermore, large-scale fertilization could have unintended, and difficult-to-predict, impacts.[452]

310. The Scientific Groups agreed that the overviews provided useful scientific information and described potential impacts of ocean fertilization; however, the studies did not provide guidance on how to apply the scientific information in the context of the ocean fertilization assessment framework.[453] The Scientific Groups agreed that the way forward would consist of a number of elements, including identifying other sources of relevance to its work on ocean fertilization, in particular the application of its assessment framework.[454]

311. At its third meeting, the intersessional working group on ocean fertilization of the London Convention and the London Protocol continued work on the development of a global, transparent and effective control and regulatory mechanism for ocean fertilization activities and other activities within the scope of the Convention and Protocol that have the potential to cause harm to the marine environment.[455] The working group recommended that the contracting parties continue to develop the options for a global control and regulatory mechanism for ocean fertilization activities, including options to amend the Protocol to permit ocean fertilization activities, and that cooperation and the exchange of information concerning ocean fertilization issues continue with other relevant international entities, including the secretariat of the Convention on Biological Diversity.[456]

312. *Carbon sequestration.* At the thirty-fourth meeting of the Scientific Group of the London Convention and the fifth meeting of the Scientific Group of the London Protocol, held in April 2011, the Scientific Groups received updates on experiences with carbon dioxide sequestration technologies and their application.[457] The Scientific Groups noted the decision, taken at the sixth session of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol, held in Cancun, Mexico, in December 2010, that carbon dioxide capture and storage projects in geological formations were eligible as clean development mechanism project activities, provided that certain conditions were met.[458]

C. Adapting to projected climate change

313. Greater attention has been given to the need for urgent measures to adapt to projected climate change, as emphasized in my previous reports.[459] For example, the new strategic plan adopted at the Conference of the Parties to the Convention on Biological Diversity held in 2010 set a target of 2015 for the minimization of the anthropogenic pressures on coral reefs and other vulnerable ecosystems impacted by climate change or ocean acidification, so as to maintain their integrity and functioning. By 2020, ecosystem resilience and the contribution of biodiversity to

[452] See LC/SG 34/INF.3; IOC contribution.
[453] LC/SG 34/15, paras. 3.7-3.10; see also LC/32/15, annexes 5 and 6.
[454] Ibid.
[455] LC/32/15, para. 4.27.4 and annex 7.
[456] LC/33/4, chaps. 4 and 5 and paras. 6.5 and 6.7.
[457] LC/SG 34/15, paras. 4.1-4.10.
[458] LC/SG 34/15, para. 4.2; see also LC/SG 34/INF.2.
[459] A/65/69/Add.2, paras. 386-392; A/66/70, paras. 102-106; and A/66/70/Add.1, paras. 204-207.

carbon stocks are to be enhanced through conservation and restoration, including the restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation.[460]

314. IOC reported that a project funded by the Global Environment Facility on adaptation to climate and coastal change in West Africa had met several objectives, including the establishment of a network of stakeholders in coastal adaptation and the development of communication materials. Some co-financing had been received, and consultations had started with countries and potential donors with a view to launching a second phase of the project.[461]

315. In cooperation with other partners, United Nations University convened an international workshop, entitled "Indigenous peoples, marginalized populations and climate change: vulnerability, adaptation and traditional knowledge", in Mexico City in July 2011. The workshop brought together indigenous and marginalized populations, including from coastal communities, and scientific and policy experts in order to inform the fifth assessment report of the Intergovernmental Panel on Climate Change.[462]

XIII. Settlement of disputes

A. International Court of Justice

316. On 4 May 2011, the International Court of Justice rendered two judgments in the case concerning *Territorial and Maritime Dispute (Nicaragua v. Colombia)*, rejecting the applications for permission to intervene filed by Costa Rica and Honduras, respectively, pursuant to article 62 of the Statute of the Court.[463]

B. International Tribunal for the Law of the Sea[464]

317. *Case No. 19*. On 4 July 2011, Panama instituted proceedings against Guinea-Bissau in a dispute regarding the merchant vessel *Virginia G*.

318. *Case No. 18*. On 24 November 2010, Saint Vincent and the Grenadines instituted proceedings against Spain in a dispute concerning the merchant vessel *Louisa*, and requested the International Tribunal for the Law of the Sea to order provisional measures. On 23 December 2010, the Tribunal delivered an order rejecting the request for provisional measures.

319. *Case No. 17*. On 1 February 2011, the Seabed Disputes Chamber of the Tribunal rendered an advisory opinion concerning the "Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area". The advisory opinion was the first decision of the Seabed Disputes Chamber

[460] See decisions X/2, annex, and X/33 of the Conference of the Parties to the Convention on Biological Diversity.

[461] IOC contribution.

[462] See www.unutki.org/news.php?news_id=109&doc_id=6.

[463] See www.icj-cij.org.

[464] See www.itlos.org.

and the first advisory opinion submitted to it by the Council of the International Seabed Authority.[365]

320. *Appointment of arbitrators under annex VII to the United Nations Convention on the Law of the Sea.* On 25 March 2011, the President of the Tribunal appointed three arbitrators, Ivan Shearer (Australia), James Kateka (United Republic of Tanzania) and Albert Hoffmann (South Africa), to serve in the arbitral proceedings instituted in accordance with annex VII to the United Nations Convention on the Law of the Sea for the settlement of the dispute between Mauritius and the United Kingdom concerning the "marine protected area" related to the Chagos Archipelago. The President also appointed Ivan Shearer as President of the Arbitral Tribunal. These appointments were made in consultation with the parties to the dispute.

XIV. International cooperation and coordination

A. United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea

321. The United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea held its twelfth meeting in New York from 20 to 24 June 2011, and focused its discussions on "[C]ontributing to the assessment, in the context of the United Nations Conference on Sustainable Development, of progress to date and the remaining gaps in the implementation of the outcomes of the major summits on sustainable development and addressing new and emerging challenges".[366] The report on the work of the Informal Consultative Process at the meeting (A/66/186) consists of the Co-Chairs' summary of discussions, which includes issues that could benefit from attention within the framework of the 2012 United Nations Conference on Sustainable Development. At the request of the Informal Consultative Process, the report has been transmitted to the Co-Chairs of the Bureau for the Preparatory Process of the Conference.

322. The topic of focus for the next meeting of the Informal Consultative Process, to be held in 2012, is "marine renewable energies". In accordance with paragraph 227 of its resolution 65/37 A, the General Assembly will, at its sixty-seventh session, further review the effectiveness and utility of the Informal Consultative Process.

B. Regular process for global reporting and assessment of the state of the marine environment, including socio-economic aspects

323. Pursuant to General Assembly resolution 64/71, the Ad Hoc Working Group of the Whole to recommend a course of action on the regular process for global reporting and assessment of the state of marine environment, including

[365] See www.itlos.org/fileadmin/itlos/documents/cases/case_no_17/adv_op_010211.pdf.

[366] General Assembly resolution 65/37 A, para. 231; the report prepared by the Secretary-General on the topic of focus is contained in document A/66/70/Add.1.

socio-economic aspects, met from 30 August to 3 September 2010 with a view to making recommendations to the General Assembly at its sixty-fifth session.[467]

324. Subsequently, the first meeting of the Ad Hoc Working Group was held from 14 to 18 February 2011, pursuant to paragraph 203 of resolution 65/37 A. On 15 March 2011, the General Assembly, in its decision 65/545, requested the Ad Hoc Working Group to submit a report on its first meeting to the General Assembly at its sixty-fifth session.[468]

325. In its resolution 65/37 B, the General Assembly endorsed the recommendations adopted by the Ad Hoc Working Group, and requested the Secretary-General to convene the second meeting of the Ad Hoc Working Group on 27 and 28 June 2011 to address outstanding issues identified in the report on the first meeting, with a view to enabling the first cycle of the first global integrated assessment to proceed, and to provide recommendations to the General Assembly for consideration at its sixty-sixth session.[469]

326. In line with the recommendation, made by the Ad Hoc Working Group at its second meeting, that workshops be organized at the earliest possible opportunity in order to inform the first cycle of the regular process, Chile offered to host a workshop in Santiago in September 2011.

C. UN-Oceans

327. UN-Oceans held its ninth meeting in New York on 17 June 2011.[470] Most of the discussions at the meeting were focused on the 2012 United Nations Conference on Sustainable Development and the possible involvement of UN-Oceans in raising the profile of oceans at the Conference. Participants discussed the coordination of papers on a "Blueprint for a healthy ocean", to be prepared by IOC, and on a "Green economy in a blue world", to be prepared by UNEP. Also discussed at the meeting was a proposal for the review of UN-Oceans, as appropriate, to identify strengths, weaknesses and areas for improvement. In addition, UN-Oceans was informed of the establishment of a Friends of the Oceans group, chaired jointly by Australia and Barbados.

328. UN-Oceans also considered preparations for the Yeosu, Republic of Korea, Expo, to be held from May to August 2012, on the theme "The living ocean and coast: diversity of resources and sustainable activities".

329. Developments related to the UN-Oceans task forces on marine biodiversity beyond areas of national jurisdiction and on marine protected areas were presented.[471] Developments were also presented with regard to the newly established task force on the Global Partnership on Climate, Fisheries and Aquaculture. The Partnership is aimed at raising awareness of climate change interactions with aquatic resources and their social and economic aspects. Furthermore, UN-Oceans discussed preparations for outreach material; the

[467] See A/65/358.

[468] A/65/759.

[469] See A/66/189.

[470] When finalized, the report on the ninth meeting of UN-Oceans will be available from www.oceansatlas.org www.un-oceans.org/index.htm.

[471] A/64/66/Add.2, para. 171.

establishment of a new task force on marine debris; activities carried out within the framework of the United Nations Atlas of the Oceans; and relevant activities of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection.

D. Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection

330. The Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection held its thirty-eighth session in Monaco in May 2011.

331. Five working groups were most active on the following issues: the evaluation of the hazards of harmful substances carried by ships; the review of applications for "active substances" to be used in ballast water management systems; metals in the marine environment, including mercury; the atmospheric input of chemicals to the oceans; and the establishment of trends in global pollution in the coastal environment.

332. With regard to new and emerging issues, the Joint Group of Experts discussed the issue of "biomagnification", which occurs when persistent organic pollutants accumulate through the food chain of top predators. The Joint Group of Experts highlighted the fact that the impact of food contaminants on human health and concerns for food security had increased the urgency of addressing this issue. An independent multidisciplinary global assessment involving multi-stakeholders could help to inform policymakers. At a workshop of the Joint Group of Experts on "Microplastic particles as a vector in transporting persistent, bioaccumulating and toxic substances in the oceans", workshop participants recognized that there was a limited knowledge on the issue and concluded that there was a need for such an assessment.[472]

XV. Capacity-building activities of the Division for Ocean Affairs and the Law of the Sea

333. The Division for Ocean Affairs and the Law of the Sea continued to carry out capacity-building activities, mainly through the management of fellowship programmes, trust funds and, upon request, training or seminar events (see below). The Division also continued to compile information on the capacity-building activities of international organizations, donor agencies and States, as available and appropriate. Relevant information has been reflected in my previous reports on oceans and the law of the sea.[473] Following a request made by the General Assembly in paragraph 3 of its resolution 65/37 B, the Division with the assistance of the Group of Experts on the Regular Process, prepared, on a preliminary basis, an inventory of capacity-building for assessments and types of experts for

[472] See *Reports and Studies No. 82* (Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection, 2010).

[473] See, for example, A/63/342.

workshops.[474] All published reports and studies were made available on the website of the Division.

A. Hamilton Shirley Amerasinghe Memorial Fellowship on the Law of the Sea

334. In June 2011, Ms. Sri Asih Roza Nova of Indonesia was awarded the twenty-fourth Hamilton Shirley Amerasinghe Memorial Fellowship on the Law of the Sea. Ms. Roza Nova is expected to commence her studies under the research phase of the Fellowship in the latter part of 2011 at the Centre for International Law of the National University of Singapore. She will then continue with a two-month practicum at the Division.

335. In 2011, contributions to the Fellowship fund were made by Argentina, Cyprus, Finland, Ireland, Monaco and Slovenia. As at 31 July 2011, the balance of the Fellowship fund was approximately $53,000.00. The total disbursements to be made from the Fellowship fund to finance the twenty-fourth awardee are estimated to be $45,000.00. Thus, without additional contributions, the Fellowship fund will be unable to defray the costs associated with the twenty-fifth Fellowship award to be made in 2012. Accordingly, an appeal to Member States and others in a position to do so is hereby made to contribute generously to the further development of the Fellowship to ensure that it is awarded every year.

336. The Division continues to undertake fund-raising initiatives which have included a side event at the twelfth meeting of the Informal Consultative Process, in June 2011. In addition, it has sent a number of communications to Member States and private institutions seeking contributions.

B. The United Nations-Nippon Foundation of Japan Fellowship Programme

337. The Division administers the United Nations-Nippon Foundation of Japan Fellowship Programme. It provides capacity-building opportunities to developing States through an advanced nine-month fully funded research fellowship in partnership with more than 40 leading academic institutions worldwide. Successful candidates develop customized research programmes in the field of ocean affairs and the law of the sea, and related disciplines including marine science, so as to better contribute to the development and implementation of maritime programmes. Application to the Fellowship is open to qualified Government officials and other mid-level professionals from developing States. Since its inception in 2004, the Programme has made 70 awards to individuals from 54 States. Currently, individuals from the following States are completing the Fellowship Programme: Azerbaijan, Djibouti, Guatemala, Mexico, Namibia, Nigeria, Oman, Peru, Thailand and Yemen.

[474] See recommendations of the Ad Hoc Working Group of the Whole to the sixty-sixth session of the General Assembly, contained in A/66/189, sect. II.

C. Trust funds

1. Commission on the Limits of the Continental Shelf

338. *Voluntary Trust Fund for the purpose of facilitating the preparation of submissions to the Commission on the Limits of the Continental Shelf for developing States, in particular the least developed countries and small island developing States, and compliance with article 76 of the United Nations Convention on the Law of the Sea*. During the reporting period, contributions to the Trust Fund were received from Australia, Iceland and Ireland. According to the statement of accounts, the Trust Fund balance at the end of July 2011 was approximately $1,228,572.12. During the period under review, a grant agreement was concluded with Vanuatu.

339. *Voluntary Trust Fund for the purpose of defraying the cost of participation of the members of the Commission on the Limits of the Continental Shelf from developing States in the meetings of the Commission*. During the reporting period, contributions to the Trust Fund were received from China, Iceland, Ireland, Japan, Mexico and the Republic of Korea. At the twenty-first meeting of States parties, Japan made a pledge for a future contribution. According to the statement of accounts, the Trust Fund balance at the end of July 2011 was estimated to be $619,703.45. Assistance from the Trust Fund was provided to six members of the Commission to facilitate their participation in the twenty-seventh and twenty-eighth sessions of this body, while assistance was provided to three members for the resumed twenty-seventh session.

2. Voluntary Trust Fund for the purpose of assisting developing countries, in particular least developed countries, small island developing States and landlocked developing States, in attending meetings of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea

340. During the period under review, representatives from the following eight countries, including three panellists, received assistance from the Trust Fund in the form of airline tickets to enable them to attend the twelfth meeting of the Informal Consultative Process, in June 2011, in accordance with General Assembly resolution 62/215: Bahamas, India, Jamaica, Madagascar, Nigeria, Palau, Thailand and Togo. According to the statement of accounts for the period ended in July 2011, the Trust Fund balance was estimated at $29,336.00.

3. Voluntary Trust Fund for the International Tribunal for the Law of the Sea

341. There have been no applications to the Voluntary Trust Fund since the submission of an application by Guinea-Bissau in 2004. A contribution to the Trust Fund was received from Finland in 2010. As at 29 July 2011, according to the statement of accounts, the Trust Fund balance was estimated at $160,820.95.

4. Voluntary Trust Fund for the Regular Process for global reporting and assessment of the state of the marine environment, including socio-economic aspects

342. During the period under review, a contribution was made by Iceland, in 2010. In 2011, contributions were received from Jamaica, New Zealand and the Republic

of Korea. According to the statement of accounts for the period ended in July 2011, the Trust Fund balance was estimated at $12,730.00.

5. Assistance Fund under Part VII of the United Nations Fish Stocks Agreement

343. In accordance with the financial report of FAO on the status of the Assistance Fund under Part VII of the United Nations Fish Stocks Agreement, as at 31 December 2010, the contributions made to the Fund, together with accrued interest, totalled $58,057.00. The total expenditures of the Fund, including unliquidated commitments, amounted to $984,045.00. In June 2011, Australia made a contribution in the amount of A$500,000.00.

344. In 2010, 35 applications were funded and the total expenditure from the Fund was $316,398.00. The breakdown of that expenditure was as follows: 46 per cent supported capacity-building activities through three regional workshops, addressing (a) the management of tuna data, (b) tuna stock assessment, ecosystem and bycatch, and (c) port State measures; 41 per cent supported participation in sessions of fisheries management organizations and arrangements; 10 per cent supported participation in meetings of global organizations; and 3 per cent supported administrative costs.

XVI. Conclusions

345. Oceans are vital to humankind. They sustain billions of people around the world through, inter alia, the provision of food, shelter, energy, transportation, employment and recreation. The oceans also play a critical role in providing ecosystem services such as the regulation of the global climate and the oxygen cycle. Safe, healthy and productive seas and oceans are thus integral to human well-being, economic security and sustainable development.

346. The pace of economic and social developments in many countries has resulted in greater pressure on marine living and non-living resources.

347. Many coastal States are turning increasingly to the oceans and seas for additional supplies of food, minerals and energy, in particular oil and gas, but also clean renewable energy, such as geothermal, tidal and wave energy.

348. Marine ecosystems are fragile and vulnerable. They are affected by, among other things, unsustainable fishing; increased human population in coastal areas, with the consequent pollution from land-based sources; the destruction of productive habitats such as coral reefs; oil spills; alien invasive species; and the impacts of climate change, such as rising sea levels, ocean acidification, the melting of polar ice and shifts in the distribution of marine species.

349. There is, therefore, an urgent need to step up efforts to protect important marine habitats and ecosystem functions. Adopting a precautionary approach, ecosystem-based mitigation and adaptation strategies, and sound management would help to ensure that key components of marine ecosystems remain resilient to the cumulative impacts of those pressures. In particular, the marine environment is also vulnerable to the catastrophic impacts of natural disasters, such as tsunamis. Events such as these constantly remind us of the acute need for robust early warning systems, as well as the benefits of effective notification systems and contingency plans to ensure that damage or hazards are not transferred, directly or indirectly,

from one area to another, and the acute need for measures to reduce and control pollution of the marine environment.

350. The international community continues to demonstrate its resolve and commitment to improve the plight of our oceans, in accordance with the United Nations Convention on the Law of the Sea, as shown in the present report.

351. Delineating and delimiting maritime jurisdictions and exercise of sovereignty, and sovereign rights in accordance with international law are crucial for the rule of law in oceans and for ensuring that States benefit fully from the use of ocean resources. Many States have made great progress in that regard by establishing precise boundaries of maritime zones, including lines of delimitation. A large number of coastal States have made submissions to the Commission on the Limits of the Continental Shelf with regard to the outer limits of their continental shelves beyond 200 nautical miles. Such submissions, prepared at a considerable cost, must be addressed by the Commission effectively and expeditiously.

352. At the same time, additional progress needs to be made in relation to the resolution of disputes concerning maritime boundary delimitation, in particular of those disputes with a potential to become sources of tension and conflict. The Convention provides a sound basis for such situations, including through mechanisms for the settlement of disputes, and the obligation of Parties to seek, in the case of the delimitation of the exclusive economic zone and the continental shelf, provisional arrangements of a practical nature. States, in particular States parties, should strive to avail themselves to the fullest extent possible of the provisions of the Convention in this regard, as well as of the potential of international judicial bodies, such as the International Tribunal for the Law of the Sea and the International Court of Justice.

353. As the General Assembly expands its activities in the context of its overview of matters relating to ocean affairs and the law of the sea, the Secretariat continues to receive additional requests for support and assistance, including in capacity-building and meeting servicing. The capacity of the Division for Ocean Affairs and the Law of the Sea of the Office of Legal Affairs to adequately address these requests and to continue to provide high-quality output to Member States is thus coming under considerable pressure.

354. With respect to voluntary support for ocean-related activities, of the seven trust funds managed by the Division, three have been having chronically low balances and are in danger of not being fully viable: the Regular Process Trust Fund (TMF), the Informal Consultative Process Trust Fund (KEA) and the Fellowship Trust Fund (ILA/HSA, Project 9681). Identifying adequate ways to address increasing requests with scarce resources would seem to require particular attention during the annual consideration of the agenda item "Oceans and the law of the sea".

355. The peaceful uses of our oceans and seas have been challenged in recent years by a surge in acts of piracy and armed robbery at sea, in particular off the coast of Somalia. These continue to pose a threat to the lives and safety of seafarers as well as to international shipping and trade. The increased geographic reach of piracy off the coast of Somalia, together with the use of violence against seafarers, underlines the need for urgent and effective responses at all levels. This includes a continued increase in the number of States criminalizing piracy under their domestic law, and building the capacity of judicial institutions and infrastructure in Somalia and other

States in the region. Furthermore, the international community needs to continue to develop measures to address the underlying causes of piracy and armed robbery at sea.

356. The trafficking and smuggling of people and illegal drugs by sea, as well as related criminal activities, also continue to endanger human lives and peace and security in the oceans. Strategies need to be put in place to strengthen search-and-rescue regimes in order to effectively address the irregular migration of people by sea, which is resulting increasingly in loss of lives.

357. In order to ensure the rule of law in the oceans, States that have not yet done so should consider becoming parties to the United Nations Convention on the Law of the Sea and the two implementing Agreements. With two new States parties to the Convention and to the Agreement relating to the implementation of its Part VI, the goal of universal participation has moved yet closer.

358. The year 2012 will mark the thirtieth anniversary of the opening for signature of the United Nations Convention on the Law of the Sea. In the assessment of the status of the implementation of the Convention and its related Agreements on that occasion, including the challenges in its application at the national and regional levels, the overarching significance of the Convention for the strengthening of international peace and security, international cooperation, and sustainable development of the oceans and seas should not be underestimated.

359. The year 2012 will also be very important for yet another reason. The United Nations Conference on Sustainable Development will meet in Rio de Janeiro, marking the twentieth anniversary of the 1992 United Nations Conference on Environment and Development and the tenth anniversary of the 2002 World Summit on Sustainable Development. The sustainable development of our oceans should be at the heart of the deliberations at the Conference. This event will provide a unique opportunity to take stock of our achievements to date, issues still in need of attention and the challenges that lie ahead in order to ensure that our oceans are healthy, safe and secure and that they benefit future generations.

360. Yet another opportunity to keep the oceans issues high on the agenda will be the Expo to be held in Yeosu, Republic of Korea, in 2012, the theme of which will be "The living ocean and coast".

361. As we prepare for 2012, it is essential that we consider what further actions are needed in relation to ocean affairs and the law of the sea, including with a view to strengthening the legal and institutional framework governing our oceans, to ensure that all activities and policies related to oceans and the marine environment acknowledge and incorporate the three pillars of sustainable development: environmental, social and economic. Only then can the development objectives set by the international community be achieved, as I noted on the occasion of the 2011 World Oceans Day.